

Inside

What does the COMMON-WEALTH mean for higher education? In recent years too often arguments about the barriers created by high student fees. But at next week's heads of government meeting in New Delhi a new and more positive start may be made. John O'Leary reports on the package that will be put to the prime ministers and presidents (page 15)



AFRICAN WRITING: Lynne Truss talks to the South African playwright Athol Fugard and Jane Bryce discusses the exiled Kenyan writer Ngugi wa Thiong'o (page 16)

To complete our series of articles celebrating the twentieth anniversary of the Robbins Report, Sir ADRIAN CADBURY, chairman of Cadbury Schweppes, reflects on how social and economic change over the next 20 years will shape higher education (page 18)

BLACK HOLES: D. Lynden-Bell traces our understanding of the physical phenomenon of collapsed stars from its beginning in the late eighteenth century, through the Einsteinian revolution, to the latest research (page 19)

If there is a cult of PRINCE ALBERT it is only just beginning. This is the conclusion of Norman Gash in his review of three new books on Queen Victoria's consort. The most important of these, Robert Rhodes James' biography, he finds uneven (page 20)

Home news	1-10
Letters to the editor	2
Don's Diary (David Warner)	4
Party Line (Jack Straw)	6
Union View (AUT)	10
Overseas news	11-12
Articles	13-19
Column (Ernest Boyer)	13
Noticeboard	14
Books	20-29
Politics books	26-29
Classified advertising	30-35

NEXT WEEK

Two opposite views of academic publishing from David Cauter and Gordon Graham
The NAB's final final plan
Alan Ryan on Bertrand Russell's papers
New computer science books

Published by Times Newspapers Ltd, P.O. Box 7, 200 Gray's Inn Road, London WC1X 8EZ, England.
Subscription prices: £12.00 per annum in advance (UK only).
Single copies: 5p.
Printed by Times Newspapers Ltd, 200 Gray's Inn Road, London WC1X 8EZ.
Typeset by Times Newspapers Ltd, 200 Gray's Inn Road, London WC1X 8EZ.
Distributed by Times Newspapers Ltd, 200 Gray's Inn Road, London WC1X 8EZ.



HIGHER EDUCATION SUPPLEMENT
Priority House, St John's Lane, London EC1M 4BX. Telephone 01-253 3000

Enough - but only just

Two general conclusions can be drawn from the Government's expenditure plans for higher education and science in 1984/85 which were announced last Thursday as part of the Chancellor's autumn package. These contained few surprises. The amount of the advanced further education pool of course was already known. The universities' recurrent grant has been set at a level below what is needed to prevent further erosion but probably just high enough to create an impression of normalcy after the savage cuts since 1981. The science budget has been treated more favourably, as has become the common pattern in recent years.

The first conclusion is that, however open and sophisticated the University Grants Committee or the National Advisory Body make their respective "great debates" about the future of higher education, there will always be a greater debate that is certain to remain secret and likely to remain crude. That is the debate within Whitehall about the overall level and distribution of public expenditure. For the outcomes of this greater debate not only determine the context in which Sir Peter Swinnerton-Dyer's and Sir Christopher Ball's dependent debates must take place but also foreclose the answers to some of the detailed questions which they ask. These outcomes will continue to be decided in the Cabinet, or some ministerial "Star Chamber", at a level of high policy and high generality where the particular needs of higher education can barely be considered at all.

In the late 1960s some attempt was made to introduce some rational order to planning public expenditure through the PESC (Public Expenditure Survey Committee) system. A few years later the creation of the Central Policy Review Staff (Think Tank) provided Government with another instrument for more effective forward planning. Sadly PESC has degenerated into a procedure and the Think Tank has been abolished. The planning of public expenditure has continued to be determined by the Fabian incrementalism of the Left or the salami-style cuts of the Right.

It is said that some members of the Cabinet favour a much more fundamental examination of future prospects for social policy and more widely for all public expenditure. In the short term this desire has been interpreted as a threat to the post-1945 welfare state.

The spectre of student revolt

The first and most important thing to be said about the direct-action demonstration against Sir Keith Joseph at Warwick and the red paint assault on Mr Michael Heseltine at Manchester is that both seriously damage the causes which they seek to support. Far from making a dignified demonstration of their opposition to the policies with which Sir Keith is associated, the demonstrators have shown themselves to be little more than a spray of paint.

Such incidents are bound to cause particular unease in universities because so many people believe that the beginning of their fall from grace can be dated from the student trouble of 15 years ago. That was a traumatic period in the history of higher education. Looking back there is little evidence that much reform was achieved; the patterns of authority and the practices of democracy within institutions remain largely the same as they were before 1968.

The effect on the universities' public reputation has been disastrous. The student troubles of the late 1960s broke the century-old association between higher education and the spirit of self-improvement. Instead of

which it is no doubt intended to be by some of these fundamentalists. But it is possible that when Whitehall has launched this desire for a fundamental forward look it can be given a much more positive emphasis. Whichever party is in power and whatever the broad thrust of expenditure policy it is already known. The universities' recurrent grant has been set at a level below what is needed to prevent further erosion but probably just high enough to create an impression of normalcy after the savage cuts since 1981. The science budget has been treated more favourably, as has become the common pattern in recent years.

Certainly higher education has little to lose and a lot to gain from longer-term and more sophisticated planning of public expenditure. Its own lead times are inevitably long - but it has to struggle constantly to convince politicians that they cannot simply switch on a tap that will grow out "relevant" graduates or "useful" research. Its past and present excellence and crucial importance in the knowledge society of the future can hardly be denied - yet its public reputation at present is wobbly and it has few powerful lobbies to promote its immediate interest.

The second general conclusion to be drawn from the 1984/85 expenditure plans is that things could be worse. The universities do not face the prospect of sudden collapse and closure. If any universities do close, it will be in the 1990s not the 1980s and as part of far-reaching rationalization of higher education which might produce a crop of mergers rather than as a result of arbitrary institutional assassinations. For the next five years or more the prospect for the universities is a return to a rather penurious stability, not very comfortable perhaps but a great improvement on the last three years of crisis.

Far too many people in higher education, particularly in universities, have been taken in by the kind of Spenglerism. They know that things are bad, much worse than they were ten years ago, and imagine that they cannot get better. Further decline is seen as inevitable. So the final fall in the form of closures is apathetically and even masochistically awaited. No one would deny the strong tide of anti-intellectualism that is running, and of which the present Government is both cause and symptom. But equally it would be wrong to ignore the bed-rock esteem for higher education beneath the superficial disenchantment of recent years or the very widespread recognition of the central importance of advanced teaching and research to Britain's economic recovery and social stabilization.

came part of a desirable consumerist life-style in which radical politics were reduced to a necessary commodity. Of course, this was simply part of a much broader secular trend in Britain, away from self-improvement and investment and towards self-indulgence and consumption. But all cultural shifts require their symbols and in the case of higher education student troubles became the symbol of a dangerous new trend.

The background of bitter memories no doubt explains part of the ferocity of Warwick University's council. "Fining" the students' union £30,000 following the demonstration against Sir Keith. The other part is the determination to insist on freedom of speech within the university. The council wished to make it absolutely clear that such behaviour would never be tolerated at Warwick. It was right to do so. Other universities if faced with similar situations should make their determination equally plain. In particular no one should be seduced by the argument that the exclusion of Sir Keith of other Tory politicians from universities can be justified by their views and policies. To pretend that the views of the governing party fall outside the spectrum of legitimate views or that democracy is inflexible is to pretend that democracy is inflexible.

The student troubles of the late 1960s broke the century-old association between higher education and the spirit of self-improvement. Instead of

Finally to the details of next year's expenditure plans. The university grant will be £1,265m, £54m or 4.5 per cent more than in the current year. Pay and price increases will eat up £36.3m of the increase even on the Government's own unrealistic allowance of 3 per cent. So the real increase is less than £18m. With no prospect of any more money for "restructuring", the universities have received less than the vice chancellors' very modest estimate of what was required to maintain a proper steady-state income.

The other elements in next year's higher education budget display the same pattern - enough but only just. The science budget is to be maintained in real terms and it looks as if the Science and Engineering Research Council will be helped out with its perennial difficulty over international subscriptions. The precise effects of the squeezing of the AFE pool will be confused, even buried, by the more radical consequences of the NAB plan. The voluntary colleges look as if they have been treated rather ungenerously. The Government's decisions on student awards are broadly defensible, except for halving the minimum grant which looks like the judgment of a silly Solomon.

Above the detail the agenda remains the same. First, "restructuring", an overt issue in the universities but just as important in the polytechnics and colleges. The Government wants higher education to change, but is still reluctant to accept that change has its price. Second, "new blood". The present university scheme is small-scale and its impact so far has been slight. The Government seems to have no plans at present to extend it after 1984/85. Yet the normal retirement and recruitment pattern will not be reestablished until 1990. What is to be done about the gap? Third, the unit of resource which is a code for the old argument about quantity or quality. It remains unresolved in the UGC, the NAB, and, one suspects, the DES.

At some stage in the next two years the Government is going to have to come to grips with all three. How much change is it prepared to pay for? What is it going to do about the recruitment gap of the late 1980s? And how worried is it about the erosion of the traditional standards of British higher education? Last week's announcement showed that realistic answers to all three had been put off once again.

a very sensible way but arbitrary and collective punishment cannot be justified. It is also clearly an abuse of the new arrangements for funding unions. Instead the university must try to identify those responsible and bring them to account for actions that so plainly bring the university into disrepute, not only in terms of its present predicament but also of its past, present and future obligation to allow and encourage free speech.

This more reasonable approach has been followed at Manchester, although the chance of identifying Mr Heseltine's attacker must be slight. In this case the students' union could not justly be held responsible for an incident which they clearly tried to prevent. But the university is right to emphasize the responsibility of the students' union to cooperate fully in its new "security" group.

Universities have to strike a difficult balance when faced with hooligan incidents. Their response must be firm and unambiguous but they should not be panicked into unjustifiable repression by the fear of being "fined". A summary of many times greater than that the Warwick students have to pay. Just as the attacks on Sir Keith and Mr Heseltine reflect rather than attract attention from the cuts and nuclear disarmament, so panicky over-reaction may deflect attention from the fundamental issues of civilized behaviour and free speech.

Laurie Taylor



(CND badges row simmers, THES, November 1983)

Adams, isn't it?
Yes, tha... tha... that's right, Vice Chancellor.
Gillian Adams?
Yes. Tha... tha... that's right.

Now then, Miss Adams, you know why I've sent for you? Do sit up straight when I'm speaking to you. And try to call me "Vice Chancellor", or at least "sir". I'm sorry, Vice Chancellor. As I was saying: you know why I've sent for you?

I think so, sir.
Don't think so, Adams. Know so. Know so.
Yes, sir. Erm... is it about something I wore in that lecture, sir?

That's right, Adams. It's about the badge, isn't it?

Yes, sir.
Look here, Adams, let's not beat about the bush any more. How long is it since I saw you last about a similar matter to this? About six months ago, sir?

It is almost exactly six months to the day, Adams. Six months since you were last in this very room, unsuccessfully trying to explain to me why you had chosen to wear a badge depicting the feminist symbol in a seminar taken by Professor Kernitz.

Yes, sir.
Despite it being widely known throughout the university that Professor Kernitz is most profoundly opposed to the extension of women's rights.

Yes, sir.
And now, just six months later, I learn from Professor Hemblton, whose wide-ranging involvement in blood sports and animal baiting of all kinds is also well known to both students and staff, that you have had the impertinence to turn up for his second year lecture wearing on your lapel the provocative legend, *Save the Ower*.

Yes, sir. I just forgot to take it off. And to cap it all; just this morning, I have a complaint from Doctor Thwaites that you have been sitting on your chair in his seminar in a way which he finds nothing short of militant. In fact he was prepared to go so far as to use the word "Trotskyist" to describe your posture. He was also of the opinion that your finger nails were on the longish side.

I'm sorry, sir. I was just interested in what he was saying.

I'm afraid, Adams, that "sorry" isn't good enough to atone for this catalogue of offences. In fact when a university finds itself faced with this sort of individual insubordination, there seems only one appropriate course of action.

Sir?
I'm afraid I have no alternative but to fine the Students' Union a total of £30,000. Next time please.

The Times Higher Education Supplement

December 2, 1983 No 578 Price 50p

Publishers and authors, 14

R.L. Brett on Hannah Moore, 13

Alan Ryan on Russell, 17

The pitfalls of political theatre, 13



Members of the Amadeus Quartet, Morbert Brainin, Slegmund Nissel, Peter Schidlof and Martin Lovett, all OBE, were among eleven outstanding international figures who received honorary degrees of the University of London at the recent foundation day ceremony. The four received degrees of Doctors of Music, conferred upon them by the Chancellor, Princess Anne.

Setback for civil engineering

by Jon Turney
Science Correspondent

Plans for the Science and Engineering Research Council to raise funding for civil engineering research have been set back by the council's refusal to approve proposals from its Engineering Board for a new directorate in the area.

The decision, at the last council meeting, stems mainly from doubts about the number of special directorates within SERC, and from a wish to involve the Department of the Environment in any new initiative in civil engineering.

The council's directorates, which the one person special management responsibility is recognized as a successful method of channelling funds into priority areas of industrial significance. The SERC chairman, Professor John Kingman, singled them out for special mention in the council's latest annual report, saying they were a "high point" in a strategy for co-ordinating the efforts of academic and industrial researchers.

But there is now a feeling in the council that setting up too many directorates could reduce their effectiveness. And the three scientists' boards want the engineering board to demonstrate that responsibility for directorates can be passed on to other departments especially in the cases of the two oldest, in marine technology and polymer engineering. The other existing directorates, all under the engineering board, are in the biotechnology and newly approved schemes in advanced information technology and manufacturing engineering.

The civil engineering proposals developed from the report of a joint SERC/Department of the Environment task force under Sir Alan Muir. Since two years ago, a special SERC panel planned to increase the council's present £1.5m a year expenditure on civil engineering research by three or four times and argued that a directorate was the best way of managing such a programme. The work would be done on field testing of large structures, pollution and public health, maintenance and repair and research geared to overseas needs.

The council's decision to send back the plans for a directorate will be welcomed by the engineering board at its next meeting. The engineers feel that the Muir report has had little effect on the Department of the Environment, in contrast to the backing given by the Department of Trade and Industry to other SERC directorates.

Jobs gloom prompts fall in student drop-out rate

by Trina Francis

Fewer students are dropping out of university because of the fight to get a place, and because of the gloomy employment prospects outside.

In a survey carried out this week by *The Times Higher Education Supplement*, most universities reported an improvement of several per cent in the wastage rate. Fewer first year students are falling their end of year examinations than their counterparts of five years ago, and fewer are leaving for other reasons - all of which means that student numbers will continue to be pushed up.

At the University of Manchester, the drop-out rate for 1982/3 was 6.6 per cent - more than 3 per cent less than the average for the past five years, 9.8 per cent.

The registrar, Mr Ken Kitchen, said it was only in the past few months that the change was noticed. "The question is, is it an aberration or is it the beginning of a trend? We will be watching closely over the next year," he said.

The University of Bradford has also reported a fall in drop-outs - about 1 per cent - but an official said it was too early to tell whether it was significant. However, if it continued, the official said, it could mean a difference of more than 100 students over the next four years.

Other institutions reported similar trends. The University of Keele has a

Continued on page 3

Dental closure considered

by Olga Wojtas
Scottish Correspondent

The University Grants Committee has asked Edinburgh University to consider closing its dental school. This is one of three options which the UGC has told Edinburgh to discuss urgently with Lothian Health Board.

Both the other options call for a cut of more than 30 per cent in student intake, with one maintaining "typical" postgraduate work while the other allows "enhanced postgraduate activities".

The UGC move follows Government acceptance during the summer of the Dental Strategy Review Body

recommendations that the number of dentists being trained should be cut by 10 per cent.

Neither the university nor the health board is likely to favour closure. The university sees the dental school as an essential part of its medical faculty. The health board wants to maintain the dental hospital, which serves Edinburgh and the Lothians and is intertwined with the dental school, with much of the clinical work carried out by university staff.

The university has voluntarily limited its present national intake of 60 to 54, but this is because of severe overcrowding in the present school.

Backbenchers press ministers over parental contributions

by David Jobbins

Ministers are under pressure from Conservative backbenchers to ease planned steep increases in parental contributions to student grants.

Conservative MPs are anxious that proposals for higher contributions from middle and upper income families bite too severely too low down the scale.

Mr Robert Rhodes James, MP for Cambridge and the Conservatives' higher and further education liaison officer, was this week seeing Mr Nigel Lawson, the Chancellor of the Exchequer and Sir Keith Joseph, Secretary of State for Education, to explain back benchers' reservations.

But it appears that backbenchers

revolt on the issue has been headed off, although Mr Peter Brooke, under secretary for higher education, is still due to speak to the Conservative backbench education committee later this month to enlarge on Government thinking.

Mr Rhodes James was relieved that under the proposals parents of the 233,000 students at the lower end of the "contributions net" would now receive more money next year than this. But despite this he and other backbenchers remain unhappy about the impact of the proposals.

Mr Rhodes James said: "Anything which acts as a further disincentive for young people to go into higher education I do not regard as helpful."

This week he was proposing to Mr Lawson that the point of the income

Thatcher makes Delhi pledge on overseas fees

from John O'Leary

NEW DELHI

The Prime Minister, Mrs Thatcher, this week put her name to an agreement committing the Government to consultations with its Commonwealth partners before making any further significant increases in overseas student fees.

Commonwealth heads of government, meeting in New Delhi, adopted the recommendations of a report produced by a standing committee chaired by Sir Roy Marshall, vice-chancellor of Hull University. And they included in their final communiqué promises of a strengthened and "more systematic" process of dialogue in the setting of fees.

The question of student mobility occupied a large part of a two-hour session devoted to items under the heading of "functional cooperation" held on the final day of the summit. Britain escaped general criticism, largely thanks to the package of aid for foreign students, but there was more discussion than expected on the issue.

Mr John Compton, prime minister of St Lucia, a graduate of the London School of Economics led the attack on Britain and other countries which have imposed differential fees of students from other Commonwealth countries. Fee levels beyond the means of students from many member nations threatened the very basis of the Commonwealth, he said in a lengthy speech.

He was supported by leaders of several Pacific states, but Mrs Thatcher did not reply. Nor did she seek the amendment of the relevant section of the communiqué, which noted the damage caused by fee increases.

Conference spokesmen stressed that exchanges on the topic, both among the leaders and in the group of officials which had distilled the standing committee's report into a brief statement for the communiqué, were amicable. As much emphasis was placed on appreciation among third world nations for existing aid through Commonwealth funds as on concern over fee levels, they said.

The communiqué read: "The heads of government reaffirmed the importance of student mobility and educational interchange within the Commonwealth, not only to the national development efforts of member countries but also to the maintenance of Commonwealth links. They considered that the consequences of any further diminution in the levels of intra-Commonwealth exchange would be regrettable."

"Heads of Government, while welcoming the expansion in the number of scholarship awards in some receiving countries, noted the effect that increases in fees and charges could have in limiting the number of Commonwealth students abroad. They emphasized the importance of strengthening, and putting on a more systematic basis, the process of dialogue and consultation among member countries on the major questions affecting student mobility, including fees."

"Heads of government considered that the recommendations in the second report of the Commonwealth Standing Committee on Student Mobility provided, in the proposed higher education programme, a framework for action within which the range of educational opportunities for citizens of Commonwealth countries could be significantly widened in a manner consistent with the long-term policies of member countries."

"To carry forward these recommendations they agreed that a Commonwealth higher education unit should be established within the secretariat's human resource development group. In endorsing the standing committee's recommendations, heads of government expressed their appreciation of its work and invited it to continue its contribution to his Commonwealth endeavours."

The higher education programme has three aims:

- To provide a channel for discussions on mobility;
- To produce an information system which will aid exchanges;
- To coordinate a flexible programme of support for higher education and research.

It will be administered by a small unit based in London and will deal with both student and academic exchanges.

A proposal for the establishment of a Commonwealth student union secretariat, made at a meeting of commonwealth unions held in Melbourne earlier this year, never reached the heads of government. Australian students had asked their prime minister, Mr Bob Hawke, to raise the matter.

tries but also to the maintenance of Commonwealth links. They considered that the consequences of any further diminution in the levels of intra-Commonwealth exchange would be regrettable.

"Heads of Government, while welcoming the expansion in the number of scholarship awards in some receiving countries, noted the effect that increases in fees and charges could have in limiting the number of Commonwealth students abroad. They emphasized the importance of strengthening, and putting on a more systematic basis, the process of dialogue and consultation among member countries on the major questions affecting student mobility, including fees."

"Heads of government considered that the recommendations in the second report of the Commonwealth Standing Committee on Student Mobility provided, in the proposed higher education programme, a framework for action within which the range of educational opportunities for citizens of Commonwealth countries could be significantly widened in a manner consistent with the long-term policies of member countries."

"To carry forward these recommendations they agreed that a Commonwealth higher education unit should be established within the secretariat's human resource development group. In endorsing the standing committee's recommendations, heads of government expressed their appreciation of its work and invited it to continue its contribution to his Commonwealth endeavours."

The higher education programme has three aims:

- To provide a channel for discussions on mobility;
- To produce an information system which will aid exchanges;
- To coordinate a flexible programme of support for higher education and research.

It will be administered by a small unit based in London and will deal with both student and academic exchanges.

A proposal for the establishment of a Commonwealth student union secretariat, made at a meeting of commonwealth unions held in Melbourne earlier this year, never reached the heads of government. Australian students had asked their prime minister, Mr Bob Hawke, to raise the matter.

Details of grants, page 6

Robert Rhodes James



Letters to the editor

Weaknesses in student projections

Sir, - Professor Gareth Williams is correct in pointing out that the Robbins report did not cause the escalation in higher education in the 1960s and in drawing attention to the weaknesses in its projections of future student demand and in those of the official projections which have followed (THE, November 18).

The basic factors (largely neglected in official projections) which have powered the continuously accelerating demand for higher education during the past century have been as follows:

1. The continuous exponential expansion of the proportions in the population of the professional and managerial classes who have always accounted for the major part of the demand for higher education. For the first part of this century, up to the 1950s this expansion occurred at a remarkably uniform exponential rate ranging from an average of 2.6 per cent in the UK (with probably a slightly higher rate in Europe) to over 4 per cent per annum in the USA. This coincides very closely with the average annual rate of expansion of higher education in the countries concerned. It may be noted that the accumulated effect of this exponential expansion which is mediated by net upward social migration to these classes and which served the overall needs of the econo-

mies concerned, is far in excess of any demographic increase in total population or total age group of university entrance age. It is this fact which renders previous projections, based on demographic data and somewhat arbitrary guesses of trends in overall participation rates, largely irrelevant.

2. The escalation of demand from about 1955 to about 1970 was mainly occasioned by the superimposition on this secular class expansion of a rapid escalation in the age participation rate (APR) of children from the same classes in the case of the pace-making children of senior professionals. The APR accelerated from a level of about 25-30 per cent which it had held for at least several decades before 1955 to about 80 per cent by 1970. The same escalation in the APR took place throughout Europe among the corresponding social classes. Even in the USA where it was superimposed on a pre-existing demand (and higher educational numerical level) already several times greater, in proportion to population, than Europe, the main cause of escalation was almost certainly the same. The socio-cultural mechanism by which the professional/managerial classes in virtually all advanced countries came to a virtually

simultaneous conclusion that higher education which had previously been merely one of several ways of preserving socio-economic status for their children, had now become essential, remains to be researched. But that they did. And there can be little doubt that they were right in the coming period when the production and sale of knowledge itself rather than merely commodities, moves to the leading edge of economic development in the richer countries.

3. The falling off in the escalation in demand after 1970, throughout the advanced countries (with the possible exception of Japan) was mainly due to the fact that the APR for the leading professional classes had reached saturation value (75-90 per cent). In the case of Britain this effect was supplemented from the early 1970s by the virtual destruction of the teacher training certificate programme by deliberate Government action. This probably had the effect of cutting off, in place, a source of previous recruitment to higher education with a much higher proportion of working class entrants (based on O level entry and a socio-culturally credible career).

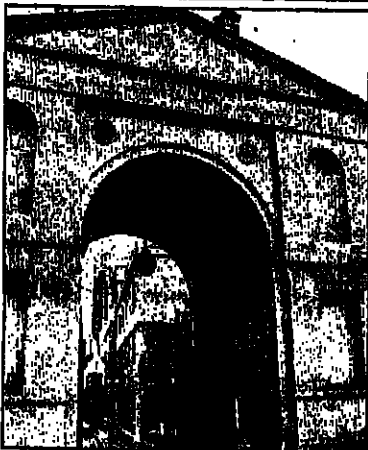
The expansion of the demand for graduate level education has continued to expand even in Britain right up to the present moment eg at a level of 4 per cent per annum from 1975-82. It may be deduced that the main source is once again the expansion of the professional and managerial classes as a proportion of the population, probably at a significantly higher rate than the secular rate in the century up to 1955, supplemented by a significant continued expansion in the average APR from these classes as those from the less "academic" professions and managerial classes slowly catch up with the pace setting senior professionals.

5. The working class contribution, though coming from about two thirds of the total age group has remained a minor factor in the expansion in demand and, in fact, has remained virtually constant since 1970. I have suggested that this has little to do with the presence or absence of "reserves of ability" but arises from the fact that in the majority of children from these classes there is little perception of the feasibility or significance of higher education until far too late to undertake that systematic discipline in intellectual competence necessary for entrance - which comes so naturally in the socio-cultural environment of professional classes.

Yours faithfully,
Professor E. G. EDWARDS
University of Bradford.

Incidentally an equally large contribution to the resolution of the wide social and educational issue which Professor Blackstone has in mind. The converse would not have held if my committee had approached its task from the other direction, since the only absolute guarantee of change in the composition of the Oxford intake would have been the imposition of quotas: that is to say, a procedure which would treat the category of school to which an applicant had been sent as the primary consideration and the ability of the applicant as secondary.

Yours faithfully,
SIR KENNETH DOVER
President,
Corpus Christi College,
Oxford.



Oxford admissions: reforms on the way

boys in the later years of YOP.

- There was some evidence that West Indians were helped to overcome disadvantage by YOP in the early stages of the recession but that this effect disappeared as unemployment rose.
- The national surveys also show this.
- The poorly qualified in Birmingham in 1979 did not have the same overall success rate as the better qualified for YOP - the effect was noted only for the boys.

I would be grateful if you could publish these corrections since my report was a summary of other researchers' work.

Yours faithfully,
K. M. GREAVES (Mrs)
Senior research officer,
Department of Employment.

Danger of a narrow focus

Sir, - Your report of the findings of the Singer Committee (THE, November 25) indicates their substance, but after all the external criticism, it is wise for the Royal College of Art to indulge in public self-mortification. We do need a major postgraduate college in London where the practice and theory of art and design is studied at high level, and some of this needs to be directed indirectly related to the market place but it would be shortsighted and counter productive if the RCA, as a result of criticism is turned into an institution with a very narrow focus.

It is a very small college and it might therefore be tempting to attempt this focus simply for economic reasons. Its small size even to mount its existing courses with a reasonable unit cost, and yet there is a substantial investment in new technology and in my opinion development of post-doctoral research. Changing the staff every few years will not alter this and will ensure that there is no continuity of research or management.

The passing comment on All Souls' interesting. Is that really the position of the RCA? Is it even a desirable objective? How would the Fellows of All Souls respond to short mandatory courses on business strategy and marketing?

If the RCA wishes to ensure that its students make a greater contribution to national competitiveness, they will have to devise methods of student selection that relate to this criteria and to provide courses that will attract them. In the faculty of art and design at Brighton Polytechnic the most commercially competitive (and often the most talented), seldom apply for the RCA. They want to earn money and are equipped to do so.

But as regions (brought in from other disciplines, often inexperienced in management as well as art and design) come and go, someone should look at how the RCA makes its own management and policy decisions before introducing too many short courses, mandatory or otherwise in the subject.

Yours sincerely,
ROBIN PLUMMER
3 Ailingworth Street,
Brighton.

Kant view

Sir, - In an otherwise valuable review of my book *Kant's Political Philosophy* (THE, November 18) Hans Nell misleads by suggesting that Kant believes that "lasting peace is best achieved through a federation of parliamentary democracies". This is not Kant's view. Kant believes we can best approach world peace through a gradually enlarging federation of states with republican constitutions.

This is not a minor point. Kant's account may be taken to imply that Britain, for instance, as a parliamentary democracy already possesses the ideal internal form of political institutions as envisaged by Kant and now simply has to wait for the rest of the non-parliamentary democracies to go the same way. However, as I make clear in my book, representative democracy within a state is not enough. Kant also requires the firm and explicit separation of powers between the executive and the legislature for his republican ideal to be achieved. Kant rallied in his day against the apparent separation of powers existing under the British Constitution. Now, under the British Constitution, the days things are not much improved in this respect. Kant would have viewed with great suspicion the power of the Cabinet both to make and execute laws. This would have to be changed if Britain was to play its full part in a "Kantian drive" for lasting peace.

As the new American Constitution, as I again explain in my book, that Kant's eye when outlining his ideal of a republican state. Providing it was not subverted, this constitution, in Kant's view, gave the best possible guarantee of peace.

Yours faithfully,
HOWARD WILLIAMS
University College of Wales,
Aberystwyth

Nuffield fends off grants

by Jon Turney
Science Correspondent

The Nuffield Foundation is trying to fend off grant applications from academics suffering under the squeeze on research council funds, to protect its role as a flexible backer of innovative projects.

The foundation's 1982 annual report, published this week, says the trustees wish to emphasize that they will only consider applications which are eligible for support by the research council under exceptional circumstances. Mr James Cornford, the foundation's director, explained that as the pressure on research councils had increased over the last few years Nuffield had received more and more

applications which had been graded well by the councils but not funded. The foundation's report says the success rate for applications in science has fallen from roughly one in two in 1976 to one in four in 1982. And it stresses that a foundation with wide interests and small resources cannot fill the gaps in research research council funding.

Mr Cornford said that while the foundation's objectives covered the fields of several research councils, they were interested in backing work which was not on the council's normal agenda. At the moment, they made around 30 grants a year of £30-£40,000 each, to university research groups. On that scale, "there's no point in having private foundations which don't do

their own thing," he said. The foundation's current work also gives an indication of the pressure on the university side of the dual-support system for research funding. A scheme announced earlier in the autumn to offer launching grants to newly appointed lecturers in science has already received 300 applications, roughly the same as the total of "new blood" university lectureships in 1983.

The scheme will offer two-year grants of up to £4,000 each to help start research projects which have not taken firm enough shape to convince a research council to part with money. "We hope the scheme will beam in on the most promising new people," Mr Cornford said.

Dole study rules hinder rather than help

by Patricia Santinelli

The Government should scrap the three-month wait for jobless young people wanting to study for up to 21 hours a week, Youthaid says in a report to be published next week.

The national charity also wants the Government to encourage colleges to provide courses to meet the needs and wishes of young unemployed people and make money available for them to do so.

It should also end the confusion about definitions and state clearly how young people can qualify under the rules, Youthaid says.

In the report *Studying on the Dole* funded by the Department of Education and Science, Youthaid says that unemployed young people are prevented from studying while on the dole by rules that were introduced to help them.

The report examined 250 colleges and schools and is being sent to the Secretary of State for Education. It says that the rules are so complicated that they confuse the jobless, college staff and Government officials alike. Hardly anyone takes advantage of them.

Under current rules, people on the dole who want to study must remain available for work and are not allowed to study for more than 21 hours in any week. If they do, they lose their unemployment or supplementary benefit. In the first three months out of work they can only study up to 15

hours a week, including homework. The survey was conducted by John Pelican, the author of the report. It found that many colleges did not offer 21-hour study and those that did provided it for a few students.

His findings show that among colleges believed to offer places to unemployed students only two out of three did so and at those there were typically around 15-20 students.

Among colleges with unemployed students, nearly three out of four (73 per cent) put them into normal courses. There were few courses specially developed to meet the needs and wishes of the young unemployed and money was not available to develop them.

In addition two thirds of colleges offering places had found problems with the Department of Health and Social Security over the exact meaning of "21 hours". Some students on courses of less than that period had their dole cut and there was widespread confusion and conflict in the interpretation of the regulations.

But the report does point out that for those students and colleges who did find a way through the maze, the benefits were enormous. It had made a tremendous difference to their lives and had lifted their depression and restored their confidence.

Youthaid makes two other recommendations. Schools should provide part-time education for unemployed young people and advertise the possibilities clearly and widely.

Drop-out rate falls

continued from front page

current drop-out rate of 5 per cent, an improvement of 2 per cent on previous years and figures are roughly the same at the University of Nottingham. Officials at the Universities of Birmingham, Sheffield, Lancaster and Leicester said up-to-date figures were not available but there had been some slight changes.

The evidence of improvement came from the University of Bristol, which the annual wage rate had reminded around the 3 per cent mark throughout the late 1970s. This year it fell very slightly.

Most drop-outs leave during, or at the end of their first year. The wage rates calculated by universities include those who fail exams as well as those who withdraw for personal reasons, medical reasons or because of bad conduct.

Because of this, some institutions say it is too early to tell whether their figures are an indication of important changes... or merely a hiccup. Universities of Leeds, Sheffield and East Anglia were among those who had noticed "no significant change".

A big change was at the University of Reading, where the rate of withdrawal, 2.8 per cent in the late 1970s, fell to 1.3 per cent this year. (An official said: "We do not know why. Suggestions have been made that high unemployment makes students reluctant to give up their courses.")

The University Grants Committee was writing to vice-chancellors this week to let them know whether their bids for more students in the next two years were acceptable. Some universities have been told to take fewer than they have suggested.



"GOOD NEWS, GENTLEMEN! WE WON'T BE CLOSING DOWN THE ENGLISH FACULTY AFTER ALL"

Scots may extend exams system

The Scottish Examination Board has proposed new sixth year "extension studies" courses to be recognized as entry qualifications to higher education.

At present, Scottish pupils sit Higher grade exams, used for entrance to universities, their fifth year. Although they can go on to sit the Certificate of Sixth Year Studies, this has never been accepted by colleges and universities as an entrance qualification.

The board has now suggested replacing the CSYS with extension studies. The board stresses that Higher will remain the base for higher education courses, with pupils still able to enter colleges and universities after fifth year.

Anti-racist demands rejected

Polytechnic teacher trainers have rejected a call by a Commission for Racial Equality group that they should run specifically anti-racist courses.

Instead the Polytechnic Council for Education of Teachers has told the CRE that any racist tendencies can be best countered by building on the considerable developments already made.

"It is by the extension and improvement of existing courses in multicultural education in teacher training that racial prejudice can best be overcome in school rather than the devising and teaching of specifically anti-racist courses," PCET says.

PCET's reaction follows a letter this summer from the commission's new anti-racist group which was sent to all teacher training institutions. This asked them to investigate the racial attitudes of their staff and devise anti-racist courses. It added that it was concerned about the failure of institutions to include multicultural and anti-racist material in their courses.

"In Britain today we live in a profoundly racist society and therefore cannot take a neutral stance towards this in our teacher training institutions. It is time for those concerned about racism to consider strategies both for practitioners to operate and for establishing this as a priority and mandatory part of teacher education," the letter said.

In its reply the council says that although it is committed to education for a multicultural society, it does not accept that "in Britain today we live in a profoundly racist society".

"Inevitably there are areas geographically and socially where such prejudices are apparent but this does not justify such a sweeping generalization, nor the explicit teaching of anti-racism which is advocated."

The council adds that it accepts entirely the necessity for all teachers to be sympathetic to the educational needs of pupils from the several ethnic backgrounds. It points out that it is a recognition of this which has led most teacher training institutions to incorporate considerations of the implications for classroom teaching.

"This may be achieved by the inclusion of specific course units or by a multicultural dimension being added to existing areas of study. It is significant that validating bodies, especially the Council for National Academic Awards now expect to see a commitment to this course extension at the time of validation," PCET says.

Leader, back page

Adults must pay more, says Brooke

A radical rethink about the method of funding adult courses should take place, Mr Peter Brooke, under-secretary of state for education, said in his first keynote speech since taking office.

He told the National Institute of Adult Continuing Education's local authority conference that this was necessary because of the difficult financial situation.

Local education authorities were responsible for the "lion's share" of the service with two million enrolments a year and students should pay more, provided that special arrangements were made to protect special groups, he said.



Medical students from all over Britain converged on the House of Commons to lobby for increased grants for medical and mature students. Members of the National Union of Students took their case to the Labour spokesman on education, Giles Radice (centre), led by the NUS president, Neil Stewart (to his right).

St Andrews subject choice restricted, claim students

by Olga Wojtas
Scottish Correspondent

St Andrews University students say they fear home students' subject choice will be restricted because of pressure from overseas student numbers.

The Students Representative Council told a University Grants Committee visitation that quotas had been imposed on first year arts subjects, with priority given to home students studying honours in a particular subject, and to overseas students, many of whom are non-graduating.

Mr Rob Borthwick, SRC president, said this was the first year of the quota system, and it had been applied very laxly. "No home students have had their choice restricted, but this is unlikely to be the case in future years since the university has adopted an aggressive marketing campaign to attract overseas students, particularly from North America," he said.

Dr Lowe said this possibility was under consideration but stressed that income from overseas students' fees had already been used to hire extra tutorial assistants. "This income is enabling us to ameliorate the effect of the cuts. Without it we would have had to shed more posts," he said.

Pressure put on English

A pressure group favouring reform of the English syllabus at Oxford University is to circulate all 800 students of English with details of how they can try to change their tutors on grounds of personal or analytical incompatibility.

Oxford English Limited is named because of the apparent limited nature of the university's English syllabus. It plans to send round the details as part of its general campaign to allow students more opportunities to avoid "bad teaching" and work with those who teach "critical theory" approaches to literature.

The move follows a highly-charged public meeting last week attended by some 300 students on the question "English at Oxford is in need of fairly basic reform".

The debate over English at Oxford has been bubbling since 1980.

It was given fresh impetus by an OEL survey in the summer which showed that 44 per cent of the 261 students who replied thought essay reading a waste of time, 60 per cent felt isolated by the tutorial system and 38 per cent said they would change their tutors if they could.

The Oxford faculty also set-up a committee to look into English examinations after finding a sudden and dramatic fall in the proportion of students gaining first class degrees in 1982 from a 15 per cent norm to 10.9 per cent.

The committee has now recommended all examination marks should be computerized with first class awards given to the top 15 per cent, ending the so-called "tyranny of the agreed alpha". Remarkably will also replace *vivus* for borderline cases.

He said there were occasions when a quango was the right answer and it had been correct to set up the ACACE six years ago. But now the NIACE could provide a voice for adult education as a body not entirely dependent on Government money which represented all interests.

The institute could also be a partner in determining policy issues and in executing future specific programmes supported by Government funding. A limited number of specific priority subjects would be tackled by the new Continuing Education Development Unit which remit would be set by ad hoc groups of experts under the guidance of a steering group.

APT recognition

Sir, - In his otherwise excellent report (THE, November 18) on the success of the Association of Polytechnic Teachers at Teesside Polytechnic in obtaining a favourable decision from an industrial tribunal on the matter of recognition, David Jobbins introduces two important errors.

The first is in the suggestion that the APT believes the decision "will help it secure local recognition from other education authorities". The decision actually means that APT is recognized by other local authorities and the only question now is the time necessary to implement that recognition.

The second is much more important. The article states the APT "has never been admitted to the teachers' panel which conducts salary negotiations with employers". For their own reasons, certain people have published documents to the press and to others stating that APT is not a member of the teachers' panel of the Further Education Burnham Committee. Since this statement can be easily checked and found to be false by reference to the statutory documents published by the Further Education Burnham Committee it is not clear why anyone gives it the least credence.

It is true that the National Association of Teachers in Further and Higher Education has seen fit to refuse to have meetings of the teachers' panel and have thus broken the principle that there should be a single voice on behalf of the teachers' panel in the committee. Indeed, on one occasion when the offer on the table was a pay rise of a mere 2 1/2 per cent, APT was left as the only representative of the teachers' panel present to reject that offer.

It must be difficult for lecturers in further and higher education to understand what advantages there can possibly be to them from the prevention of a meeting of the Further Education Burnham teachers' panel. Certainly the management panel shows no acknowledgment of the APT policy for parity with the universities. When it is put before the Burnham Committee, it is voted down by the block votes of NAFHE. It is not clear at all what purpose is served by the repetition in THE of the claim that all this occurs because APT is not a member of the teachers' panel.

Yours faithfully,
Dr A. J. POINOTON,
APT Representative,
FE Burnham Committee.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

Oxford image

Sir, - A neat, and reflection of the image of Oxford: I spoke (THE, November 4) of "difficulties and frustrations" in the existing admissions procedure at Oxford, and Professor Blackstone (November 18) assumed I was referring to inconvenient erosion of the leisure-time of dons. I was actually referring to the difficulty - occasioned by the structure of the procedure, not by conflicts of interest and predilection - of taking just decisions about individual applicants.

If, as I hope, the reformed procedure (which will take more time, not less) makes a real contribution to the solution of that difficulty, I think it will be found that it has made

Fair trading

Sir, - One of the less engaging features of the trade press is the way it inevitably reflects and endorses the prejudices and judgments of the dominant interests in the trade for which it caters. When, however, you state in your editorial "Never mind the width of the editorial" (THE, November 18) that...

"It is widely believed that the UGC in 1981 discriminated against the technological universities... (this)... is almost certainly false", you risk offending even the most tolerant and understanding of your readers.

English universities can be divided into three sets on the basis of the composition of their student body viz. "technological", "large general" and "arts". In the first category all except one (two if you admit Loughborough University, a borderline case) received a greater than average cut in grant; no institution in the second category received a greater than average cut while

university. In the third category, the average cut was greater than average cut while institutions in the third category received a greater than average cut (five) were equal to those receiving a less than average cut. This is discrimination.

In the technological universities we are careful to distinguish between what people say and what they do - good journalists, and there are such even among those who work for the trade press - usually appreciate this vital distinction.

Professor J. M. ASHWORTH
Salford University.

Cross words

Sir, - I believe that Christianity is fundamentally mistaken and dangerous. Would Dr Savage of Southampton University support me if I proposed to banish from my classes students wearing crucifixes and other religious symbols? If not, how would he differentiate between this case and the case of his ban on CND badges?

ANDREW BRISLEY
University College, Cardiff.

DON'S DIARY

THURSDAY

Fly by SAS from London Heathrow to Stockholm Arlanda. Uneventful flight. I have been invited as visiting professor to teach organizational behaviour/management development methods on a summer course run by the Stockholm School of Economics. This is being held at the Swedish Institute of Management's residential training centre at Sigtuna by Lake Mälaren and I take a taxi there from the airport. The woman taxi driver and I discuss, in English, the virtues of child car safety seats and Volvo electric windows.

On arrival at the centre I have time only to unpack and change before another taxi arrives to take me to dine at the home of a French faculty member. Must remember that "faculty" means staff out here.

FRIDAY

My sessions begin on Monday so I can enjoy the "visiting" aspect of my job. I sit in on a seminar run by a Dutch professor and mingle with the 40 course participants, all of whom are lecturers in management subjects. Some 18 different nationalities are represented.

The programme director introduces me as next week's "star attraction" and I am eyed suspiciously by everyone. I continue my role of observer in the evening, when the north American faculty attempt to teach the fundamentals of American football. A "touch" version is played so as to minimize casualties.

SATURDAY

Four of us go by car to visit Uppsala, which is about 50 kilometres north of where we are staying. It seems deserted.

After briefly looking at the shops and taking coffee at a pavement cafe, we drive out to Old Uppsala, which contains the burial mounds of the ancient Swedish kings. Our quest for cultured satisfaction, we return to the centre in the late afternoon.

After dinner I get into conversation with one of three participants from the People's Republic of China. He speaks good, although heavily accented English. It appears that many of his countrymen and women are learning English with the BBC's *Follow Me* series.

We discuss the size of the Chinese population - always a good topic - and I have the latest birth control system explained to me. As I understand it, anyone now producing more than one child has his or her salary reduced by 10 per cent for 10 years and is denied promotion during that period. I retire to bed, mulling over the concept of social engineering on such a grand scale.

SUNDAY

Nearly everyone has gone on a picnic. I elect to stay at the centre, checking my lecture notes, handouts, slides and tape-slide programmes.

The lecture room is most impressive and displays an abundance of wall sockets, white, black and magnetic boards, overhead and slide projectors and blackout curtains. I cheerfully anticipate working in such well-equipped surroundings.

After lunch I decide to take a walk around the lake and am joined by some African participants. They express interest in Glasgow University's part-time master's degree programmes in business administration and in engineering management.

They are also impressed by the concept of the West of Scotland Science Park in which the university is playing a major part. Early to bed, as my "professing" starts tomorrow.

MONDAY

Twenty participants attend my seminar, while the other 20 are with a professor from New York University who is running a parallel session on the use of microcomputers in teaching. Apple Europluses are scattered along the corridor and inside the syndicate rooms. Teaching experienced managers is hard work, teaching management lecturers is even harder.

We discuss certain key concepts and models in organizational behaviour and I demonstrate some of the methods which could be used to teach them. The Algerian and Lebanese members seem particularly interested and regularly buttonhole me during the breaks for more information.

The evening is taken up with a demonstration of a microcomputer package which can be used as a counselling aid. When this is finished, about nine o'clock, I decide to have my first sauna. One of the Swedish participants accompanies me and explains the procedure.

TUESDAY

Having slightly modified yesterday's seminar in the light of experience, I repeat it with the remaining 20 participants. The session using video training materials borrowed from friends at London University's staff development centre proves particularly successful.

Overall I feel both relieved and surprised at the comparatively small number of difficulties encountered. I had expected more, given the mix of nationalities and cultures. The three Chinese participants are aged about 55, 45 and 31. It is rumoured that the two older ones are in the process of being "re-educated" and that the youngest is the most senior. His role appears to be that of an "academic minder" and his permission is sought whenever the older Chinese wish to do something.

WEDNESDAY

I have no teaching commitments today so join the participants on a coach which takes them to the School of Economics in the centre of Stockholm. They attend classes and use the library.

I decide against a frantic sight-seeing tour of the capital and choose instead to visit the shops so as to observe the Swedish people in their natural environment.

THURSDAY

Excitement breaks out after breakfast when a Columbian participant demands to be flown back immediately to her country. It appears that she has become increasingly depressed and homesick during the previous three weeks of the course and has now reached breaking point. She finally leaves by taxi at midnight.

By comparison, my seminar passes off without incident.

FRIDAY

I finish teaching today. In the evening there is a barbecue organized by the Brazilian and Lebanese participants. The food is delicious.

The air of gaiety becomes overshadowed, however, by the latest news from the Lebanon. We learn from the Lebanese ambassador to Sweden attending in a private capacity that a number of people have been killed during the day and that Beirut airport was temporarily closed.

SATURDAY

I fly back to London this afternoon, leaving the participants to another three weeks of intensive study. Having attended a similar course in 1979, I feel only sympathy for them. Now, however, my own commitments are filled, I can look forward to a brief period of rest and a happy reunion with my wife and family.

Andrzej Huczynski

The author is lecturer in organizational behaviour at the University of Glasgow.

ILEA spells out its problems

by Paul Flather

The Inner London Education Authority has painted a picture of wholesale redundancies, skeleton building repairs, and an end of discretionary awards if it is forced to stick to Government targets on future education spending.

A consultation document sent to all bodies involved in London education sets out the options for future spending and reveals the dramatic reductions needed to meet Government desired cuts of £120m in one or two years from the £870m budget.

The document, issued by Councillor Steve Bundred, chairman of the ILEA finance subcommittee, says reductions of this order would mean ending education spending wherever legally possible, and then facing the risk of legal action over the quality of provision.

It includes two appendices on the effects of such cuts: if £120m was cut in one year it would mean just one in ten

vacancies in higher and further education being filled on an emergency basis; over two years 1,500 jobs would go, discretionary awards would be cut, together with all youth training schemes costing money and increased charges for all courses.

It also includes details of how a 5 per cent or £40m cut might affect ILEA provision, including £5.5m savings in higher and further education. The authority makes clear that some of these would have "a serious and clearly unacceptable effect on education".

The document has been put out to illustrate the difficulties facing ILEA. In fact it draws away from Government targets and sets out three feasible options for future spending ranging from savings of £15m with £5m for new developments, to making no savings with £20m put aside for new developments.

Making 5 per cent savings would mean restricting the ILEA topping-up contribution to the advanced further

education allocation by £2m.

The authority already "tops up" national allocation by £13m, and makes that after this year's National Advisory Board allocations it will cost to spend £5m more. A fresh £1m shortfall would, it says, exacerbate management problems and affect its

Some 500 discretionary awards must go for second qualifications awards to go, one student hostel would be cut with charges up at other hostels, the technical equipment budget would be cut by 15 per cent, non-addressed further education teaching would be kept to 27 timetable hours a week, allowances for materials and furniture in colleges would fall by 7½ per cent.

Adult and youth service provision would also have to fall by almost £2m with increased fees, a fall of 28 full-time (4 per cent) and 460 part-time (6 per cent) lecturer posts, and the 31 careers staff cut by 24.

Birmingham hopes for YTS pilot

by Patricia Santinelli

Birmingham is hoping to run a pilot scheme next year which will enable it to offer young people who cannot find immediate work the opportunity to complete a certificated course or to more experience in specific skills.

The local education authority is holding private talks with senior officers of the Manpower Services Commission over the setting up of a two year Youth Training Scheme.

It says that although the MSC does not have sufficient funds for a national two-year programme, it will consider pilot schemes in certain areas. Substantial MSC funding to Birmingham has already been discussed but the authority will not say how much.

Birmingham have five colleges of further education involved in the YTS with a total of 1,400 young people on Mode A schemes and another 1,100 trainees on Mode B1 schemes in adult education centres. This is out of a total of 8,500 filled places in the city.

Matthew Boulton college and Handsworth technical college are already running mini two-year pilot schemes, 90 of involving some 200 trainees, 90 of which are on straight forward college-based courses, another 90 are expected to be located on two of the existing B1 schemes. A further 20 are being encouraged to develop their own business ideas.

The authority is also carrying out a study with the confederation of British Industry to see what YTS managing agents think about long term training and future employment needs.

Trainees at Pitmans in Birmingham have issued a list of 12 demands which they want the private training agency to meet. The demands which include an increased training allowance, qualified trainers and supervisors, increased work placements and a clearly defined and impartial grievance procedure, were put to Pitmans by trainees' representatives last week.

YTS and the new 17-plus qualifications should be merged into a basic degree which could be ignored by employers, unions or the education service, the Further Education Unit told the House of Lords committee this week.

Giving evidence to the Lords' European Community Committee which is looking into the vocational training of young people in the EEC, the FEU said that in turn this base should be overseen by a unified curriculum body responsible for the overall design of all vocational programmes.

The FEU also proposed extending traineeship status into a second year as a way of solving the problem of what to do with the one year Youth Training Scheme.



Jean St Clair, who recently appeared in the play *Children Of A Lesser God*, about a deaf woman, was taking part in an Evening of Dance by Hearing and Hearing Impaired Dancers at the Place Theatre, London on Wednesday. The aim of the performance, by Nina Falaise and Dancers, was to get funding for a nationwide tour. This piece was called *Sound Poems*. Feature, page 10.

DES plans to 'control' architecture training

The continuing growth of the architecture profession is out of balance with foreseeable job opportunities, a senior Department of Education official told the Royal Institute of British Architects' education conference.

Mr David Hancock, permanent secretary at the DES, added that the department intended to balance the education of architects against the need for engineers. He said there needed to be some sort of control system because of the higher education cuts. The conference held in London on Tuesday, was on the theme of lifelong learning and changing policies.

Mr Hancock said that this was not an attempt by the DES at a "manpower planning exercise" but the department could no longer ignore the fact that architecture was one of the most expensive trainings and there were too many architects compared to engineers. A DES survey available early next year on the employment record of all students would show that engineering and accountancy had the best job record.

The heads of the schools of architecture, staff and students strongly contested the need to reduce numbers. Professor David Gooling of Sheffield University said that most of his students gained work soon after graduation.

Lord Esler, chairman of the NAB/UCO architecture working group, said that a report prepared for the group showed room for "modest expansion" but architectural education would still need to be restricted.

Scientists await data from Spacelab

Several teams of British scientists are waiting for data from experiments aboard Spacelab, launched by the American space shuttle on Monday.

The Spacelab mission will help give scientists a better understanding of the effects of space on the human body. The results of the experiments will be used to plan future space missions.

into the shuttle Columbia's cargo bay for this trip was built by the European Space Agency at a cost approaching £100m.

The successful launch marks Europe's determination to exploit the industrial and scientific potential of space. And this is the first time

scientists who are not career astronauts have flown in orbit.

The British experiments, together with over 60 others, will be managed by two scientists working in the pressurized laboratory - Dr. Ulf Merbold, a physicist from Stuttgart and Dr. Bryan Leutenber, an astronomer from the University of Cambridge.

News in brief

'Don't sell our names' says NUS

The National Union of Students is objecting strongly to British Rail's plan to sell names and addresses of student railcard holders to commercial interests.

BR has already been criticized by consumer watchdogs for its plans to sell details of senior citizens' railcard holders to an insurance company. A BR official said that railcard applicants could object in advance to their names and addresses being sold for marketing purposes. About 800,000 student railcards have been issued.

Crafty computer

South-East Arts and the Arts Council of Great Britain are to sponsor a one-year residency in computer art at the University of Kent, Canterbury, and are inviting applications. The successful artist will undertake an exhibition, workshops and possibly a tour.

Seven tongues

The EEC has awarded £38,000 in grants to the University of Essex for development of a seven-language machine translation system. The project EUROTRA, involves the work of researchers from 11 European universities, all working to improve translations for technical subjects in EEC institutions.

Close study

Sheffield City Polytechnic and the Anglian Regional Management Centre at North-East London Polytechnic have received a £127,000 grant from the Department of Education and Science to investigate the effect of the cuts in local authority higher education. The two-year study will be undertaken by John Gill of Sheffield City Polytechnic and John Pratt of the ARMC.

Potted history

The private papers of Josiah Clement Wedgwood, the First Baron of Wedgwood, a member of the famous pottery family and MP for Newcastle-under-Lyme from 1906 to 1942, have been presented to the University of Keele by his granddaughter Dr N. J. Pease, of Cambridge. The collection includes diaries and letters detailing his unusual parliamentary career, his experiences during the Boer War and his correspondences with leading politicians of the day, including Winston Churchill.

Self aware

A scheme to help Scottish graduates set up their own businesses is now entering its second year. The eight Scottish universities, five central institutions and two further education colleges have been holding one-day conferences to publicize the Graduate Enterprise Scheme, described by Sir Monty Finlayson as "one of the more exciting and novel exercises in recent times."

New Bill

Education 2000, the charitable trust representing people in schools, universities, commerce and industry, is to seek implementation of a new Education Bill to make radical changes in the education system. The group's aims include a new pattern for children under 14 based on a partnership between home and school; a mixed programme of training, work and education for 14-18-year-olds; and adult retraining rights.

APT to press for comparability review

Polytechnics are losing out in the battle with universities and the economy at large over recruits because staff salaries are too low, according to leaders of the Association of Polytechnic Teachers.

As well as a salary package amounting to 12-15 per cent, the APT is to press for a comparability review to measure how far polytechnics are slipping behind. The group's aims include a new pattern for children under 14 based on a partnership between home and school; a mixed programme of training, work and education for 14-18-year-olds; and adult retraining rights.

Dr. Tony Poinson, APT's national secretary, said: "In the past two years we have fallen behind by something like 15 per cent compared with the professional people for whom we have to compete." Areas of particular concern to APT are pharmacy, paramedical professions, law, management, engineering and other professions.

College given three options

by Patricia Santinelli

Governors of De La Salle College, Manchester, were meeting today to discuss three Department of Education and Science options on the college's future, one of which would result in its total closure.

The Roman Catholic college has already been ordered to cease teacher training recruitment by 1984. This decision was announced by Sir Keith Joseph in October following a long battle by the college and the Catholic community.

The three options were outlined in a letter sent out by the college by the DES this week. It says the department would not in any way wish to influence the final decision of the governors.

The first option suggests that the college should recruit no students to its BA/BSc courses for 1984 as a preliminary to closure and withdrawal of grant in aid at a point to be discussed.

The second proposes the suspension of recruitment to BA/BSc courses for 1984 pending the expected National Advisory Body review. This decision, it taken, the DES says, would not imply any lack of desire on the part of the college to continue with diversified

courses in the future.

The third suggestion is that the college should seek to establish itself permanently as a diversified institution. This option says the DES was not foreclosed by the secretary of state when he decided to close teacher training, but the college had ruled it out.

The department does point out however that if the governors were to opt for this alternative, they would do so knowing that they would not be exempt from the NAB review, or that like all other institutions it would have to be financially viable.

The department has denied categorically allegations by De La Salle College made in a statement this week that governors withdraw their legal action against the DES because they were promised a reprieve.

The DES says this is quite without foundation. "The DES affidavit of March 1983 said that the secretary of state would review the situation after the court case, whatever the outcome and we have made no promises of an outcome out of a review," a spokesman said.

But according to the college, Sir Keith Joseph had already promised a

review much earlier on in the year. It says that in any case it would have been naive to believe that such an important decision would be taken merely because Sir Keith had proposed to act as judge and jury in a review of his own previous decision.

"The court case was withdrawn because the governors had been led to believe that De La Salle would be relieved provided that discussions concerning the future of teacher training at the college could take place without the threat of legal action. Honourable and trusting citizens that the governors are, the court case was withdrawn," the statement says.

The college says that, in retrospect, it is now clear that this withdrawal sounded the death knell of teacher training at the college, as legal action was essential to both the future of the college and to the security of Catholic higher education.

The college goes on to say that as additional information accumulated through the hundreds of letters sent out by the DES and from statements made by Sir Keith, it became clear that a deliberate policy had been established which was detrimental to the Catholic community.



Students at the Sussex School of Chiropractic put their best feet forward as Sir Peter Baldwin (left), chairman of the South East Thames Regional Health Authority and head of school Michael Whittington look on. Sir Peter sponsors the scheme by Brighton Polytechnic and Eastbourne Health Authority.

Milk turns students sour

Glasgow University students last week "queued up for more" round a tureen of cold custard in protest against catering prices.

The students claim that staff are charged substantially less than they are. Glasgow University's student newspaper, the *Guardian* reports that a sandwich costs 46 pence in the student refectory and only 28 pence in the staff dining room, and that students pay 13 pence for a small carton of milk while staff pay 12 pence for a larger one.

Mr Paul Maslin, president of the Students' Representative Council, said students would be pressing at today's catering committee meeting to become involved in food pricing. Glasgow had the most expensive catering service of the eight Scottish universities, he said.

"Meal prices went up 10 per cent this session and snacks went up 6 per cent. We want these lowered to last year's prices and frozen for 12 months," he said.

Professor Lawrence Hunter, convenor of the catering committee, said he hoped today's meeting would resolve a number of issues.

Gravity of Britain's physicists

by Jon Turney

Science Correspondent
Britain has fewer nuclear physicists per head of population than any other European country except Turkey. A survey of nuclear physics for the European Science Foundation to be published early next year puts these two countries at the bottom of the league along with Greece and Spain.

The committee set up by the foundation, under Professor T. Mayer-Kuckuk of Bonn, compiled figures for both tenured and short-term contract staff in academic laboratories, excluding graduate students, Belgium, Switzerland, Sweden and Germany led the field on this reckoning.

The British position was little better when the number of nuclear physicists was plotted against national income. And while most countries showed a link between total income and support for physicists, the authors of the report describe Britain as a "notable anomaly".

This result for a country normally seen as a moderately generous supporter of basic science emphasizes how selective British science funding has become in recent years. In particular, domestic nuclear physics research has been reduced to maintain participation in international projects like the European Nuclear Research Centre (CERN) in Geneva, and the Institut

THE TIMES SUPPLEMENTS REPRINT SERVICE

Robbins to Leverhulme

The Leverhulme programme of study into the future of higher education was organised by the Society for Research into Higher Education with a grant from the Leverhulme Trust and further grants were made by the Gulbenkian Foundation and the Department of Education and Science. The programme consisted of eight seminars the first in April 1981 and the last in September 1982.

An edited four-page version of the final report is now available in reprint form (first published in The Times Higher Education Supplement on 27th May, 1983) price 25p.

Inquiries should be addressed to Frances Goddard, The Times Supplements, Priory House, St John's Lane, London EC1M 4BX. Cheques/postal orders should be made payable to Times Newspapers Limited (no cash please).

DES 'raids' rich parents

by David Jobbins

The Department of Education is planning a Robin Hood style raid on the rich to ease the financial burdens on middle income parents with children in higher education.

Parents with an income assessed for grants purposes at £24,000 face a 60 per cent increase in the amount by which they are expected to make up their children's grant, from £1,699 this year to £2,703 in 1984-85.

And even at a "residual income" of £16,000 after allowances have been made for mortgage interest, insurance premiums and other factors, the increase is a planned 26 per cent. Meanwhile parents with a residual income of less than £10,000 should be expected to pay less next year.

Plans for a radical adjustment of the impact of the parental contributions scales for 1984/85 were announced by Sir Keith Joseph, Secretary of State for Education, two weeks ago, when he made clear that middle and higher income groups faced higher contributions.

Plans for implementation are now at an advanced stage and an official announcement of scales for 1984/85 is expected much earlier than last year when final details were not forthcoming until early summer, holding up local authorities' calculation of individual assessments.

Proposals circulating within the DES suggest that parents just within the thresholds net will have to meet a lower proportion of their children's maintenance costs than this year. The thresholds are being increased in line

with average earnings over the past year by 7 per cent, raising the bottom point from £7,100 to £7,600, when a £20 contribution is expected.

At £8,000 the £77 contribution is £71 lower than last year, and even at £10,000 it is £46 lower. But from then onwards the formerly regressive scale of contributions has been replaced with a sharply progressive one.

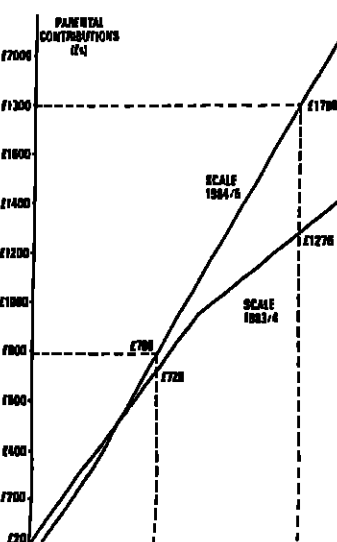
At £12,000 the contribution is 5 per cent up but at £16,000 it is 25 per cent up at £1,370 compared with £1,083 and at £24,000 60 per cent up at £2,703 compared with £1,699.

This radical shift has been achieved by changing the rate of contributions. This year parents with a residual income between £7,100 and £9,000 were expected to contribute one pound in every seven of their residual income; between £9,000 and £14,300 it is one pound in every eight; and above £14,300 one in every thirteen.

Next year, according to DES proposals, the profile will be almost reversed. The lowest rate is to be abolished, and those above £9,700 are to be expected to contribute one pound in every six, ie more rather than less than the basic rate of one pound in seven.

A student outside London on next year's award of £1,725 whose parents have a residual income of £12,000, will expect £57 more next year than this, according to the National Union of Students.

The parents of a London student on an award of £2,055 will be expected to meet £1,786 of it out of their residual income of £18,500, some £510 more than this year.



Residual income (£)	1983-84 Contribution (£)	1984-85 Contribution (£)	Difference (£)
7600	20	91	-71
8000	20	148	-128
9000	220	291	-71
9700	320	378	-58
10000	370	416	-46
12000	703	666	-37
14000	1037	916	-121
16000	1370	1083	-287
18000	1703	1237	-466
20000	2037	1391	-646
22000	2370	1545	-825
24000	2703	1699	-1004

*Point at which the rate changes

Shift to science could cost Edinburgh £13m

by Olga Wojtas
Scottish Correspondent

Edinburgh University could lose £13m in income over the next decade as a result of Government policy, its principal has warned. Dr John Burnett, speaking at a graduation ceremony, said the Government wished to see more scientists and technologists, who cost between 80 per cent and 100 per cent more to train than an arts student.

A shift of 100 students at Edinburgh from arts to science would cost more than £300,000 a year, said Dr Burnett, but the university was also being asked to consider a one or two per cent annual reduction in resources over the next 10 years. This, combined with increased training costs could result in a loss of some £8m or £13m by 1993.

If the university were to support science and technology under such circumstances, this could be achieved only by either reducing the arts intake, or reducing financial support for arts-based subjects, "an invidious dilemma", said the principal.

"It is the arts-based subjects that provide those wellspring which animate man's use of science and technology. It is the social sciences which, through analysis and prediction, enable us truly to assess the consequences on society of a decade or more of mass unemployment or the true consequences of the revolution in information technology and the microchip society."

The Government should give more thought to ends and rather less to means, said the principal, who predicted a bleak future for the universities. "Despite having come through the recent difficult period of major volume cuts battered and bruised by the bulk of our teaching capacity intact, I can only see a continuing prospect before us," he admitted.

Students will choose own discipline

More than half the students in higher education receive fewer public funds to live on than they would get on the Youth Training Scheme. That is, perhaps, the most stunning figure to emerge from our latest preparations for the annual student grants submission. It means that Sir Keith Joseph's announcement of the outlines of the grants settlement for next year will only be the first round of a protracted battle over the next few months on student finance.

The argument from the student point of view is about a great deal more than money. Status, independence, freedom from parental control and the recognition that students are now in the risk business with no real guarantee of a job at the end have all contributed to a change in attitude among students on the campuses.

In our grants submission we have concentrated on the areas of greatest injustice, students on parental contribution, those who receive the minimum grant and the hundreds of thousands of students in further education who receive no grant at all.

Recognising the realities of debate in Government circles the National Union of Students went further and identified areas where the Government could transfer hundreds of millions of pounds to establish a minimum grant system and rectify the major injustices in the existing scheme.

Despite the obvious justice of our claim and despite the admission by Mr Peter Brooke, under-secretary of state for higher education, that the existing system is unfair and illogical, the Government has produced a package in which various categories of students are robbed of money to enable ministers to shore up their crumbling credibility in other areas.

It is hardly surprising, however, that major changes in the grants system were not agreed since Sir Keith Joseph, Secretary of State for Education, appears to take little interest in this area of his department's responsibility.

Once you understand the dire financial position that many students are in once you know that Sir Keith Joseph, in contradiction of all that government has said about dialogue with unions, has consistently refused to meet student leaders; and when you add to that the recent blatant breach of the pre-election promise not to cut the universities then you begin to understand the reasons behind the incident at Warwick University.

The action of Warwick University against the student union merely adds another injustice to those felt by students and further polarises the debate. Professor Jack Butterworth, the vice-chancellor of Warwick, said that he has a responsibility to maintain free speech on his campus.

Free speech is essential to an intellectual and academic community but so also is the pursuit of truth and some attempt at objectivity. By flinging the student union the authorities at Warwick seemed to have abandoned the latter two principles in favour of wild public gestures to prove their authority over all students.

In attacking the student union the authorities at Warwick are attacking the only real mechanism for self-discipline among students and for dialogue with students. Whether they know it or not, they are going down the same road as those who say the Government can only be made to listen by violence.

Neil Stewart
The author is president of the National Union of Students.

Back to school
Strathclyde University's English studies department is offering one-year fellowships to school teachers over the next two sessions. Professor Colin MacCabe said the department particularly welcomed applicants wishing to take the advanced certificate in linguistics, or to undertake supervised research in English, Scottish or American literature.



Students will choose own discipline

More than half the students in higher education receive fewer public funds to live on than they would get on the Youth Training Scheme. That is, perhaps, the most stunning figure to emerge from our latest preparations for the annual student grants submission. It means that Sir Keith Joseph's announcement of the outlines of the grants settlement for next year will only be the first round of a protracted battle over the next few months on student finance.

The argument from the student point of view is about a great deal more than money. Status, independence, freedom from parental control and the recognition that students are now in the risk business with no real guarantee of a job at the end have all contributed to a change in attitude among students on the campuses.

In our grants submission we have concentrated on the areas of greatest injustice, students on parental contribution, those who receive the minimum grant and the hundreds of thousands of students in further education who receive no grant at all.

Recognising the realities of debate in Government circles the National Union of Students went further and identified areas where the Government could transfer hundreds of millions of pounds to establish a minimum grant system and rectify the major injustices in the existing scheme.

Despite the obvious justice of our claim and despite the admission by Mr Peter Brooke, under-secretary of state for higher education, that the existing system is unfair and illogical, the Government has produced a package in which various categories of students are robbed of money to enable ministers to shore up their crumbling credibility in other areas.

It is hardly surprising, however, that major changes in the grants system were not agreed since Sir Keith Joseph, Secretary of State for Education, appears to take little interest in this area of his department's responsibility.

Once you understand the dire financial position that many students are in once you know that Sir Keith Joseph, in contradiction of all that government has said about dialogue with unions, has consistently refused to meet student leaders; and when you add to that the recent blatant breach of the pre-election promise not to cut the universities then you begin to understand the reasons behind the incident at Warwick University.

The action of Warwick University against the student union merely adds another injustice to those felt by students and further polarises the debate. Professor Jack Butterworth, the vice-chancellor of Warwick, said that he has a responsibility to maintain free speech on his campus.

Free speech is essential to an intellectual and academic community but so also is the pursuit of truth and some attempt at objectivity. By flinging the student union the authorities at Warwick seemed to have abandoned the latter two principles in favour of wild public gestures to prove their authority over all students.

In attacking the student union the authorities at Warwick are attacking the only real mechanism for self-discipline among students and for dialogue with students. Whether they know it or not, they are going down the same road as those who say the Government can only be made to listen by violence.

Neil Stewart
The author is president of the National Union of Students.

'Institutions are racist'

by Paul Flather

Higher education institutions practise covert and sometimes overt racism in their policies of access for black students, promotion of black academics and support of black studies courses a new group of academics claimed last week.

Many speakers at the inaugural conference of the Association of African, Caribbean and Asian Academics at Central London Polytechnic referred to the problem of "institutional racism" which they said affected all "white-run institutions" in the country.

Mr Ram Kaushal, senior lecturer and head of community and race relations studies at Edge Hill College, Lancashire, launched a swinging attack on universities, saying that they were the biggest shareholders of institutionalized racism.

He wondered where all the black British students in universities were. "And where are all the courses in Asian studies and Caribbean studies?" he asked. He said universities were keen to run Japanese courses once Japanese money was on offer.

Some 80 black academics, educationists, and students attended the conference. It was the first held by the association, which is open only to blacks and aims to raise issues such as access for black students, bias, and "ethnocentricity" in courses.

Mr Kaushal said: "We have to

Universities 'slow to help'

Universities have been much slower than the public sector in helping ethnic minority students win places in higher education, Sir Roy Marshall, vice-chancellor of Hull University, told the association.

Sir Roy was speaking on the higher education response to British ethnic minorities. He called for more special access courses of the sort pioneered by a number of local authorities in conjunction with colleges and polytechnics.

But he warned of a long hard road ahead and said that a time when the Government was reducing higher education places it would be increasingly difficult for ethnic minority students to gain entry.

"The university system has not really addressed its mind to the problem of access to higher education. A lot of consideration is given to access for overseas students, but hardly any for ethnic minorities who are citizens of this country," he said.

Sir Roy, who comes from Barbados, said the chances of getting into higher education often depended on the class

Universities 'slow to help'

Universities have been much slower than the public sector in helping ethnic minority students win places in higher education, Sir Roy Marshall, vice-chancellor of Hull University, told the association.

Sir Roy was speaking on the higher education response to British ethnic minorities. He called for more special access courses of the sort pioneered by a number of local authorities in conjunction with colleges and polytechnics.

But he warned of a long hard road ahead and said that a time when the Government was reducing higher education places it would be increasingly difficult for ethnic minority students to gain entry.

"The university system has not really addressed its mind to the problem of access to higher education. A lot of consideration is given to access for overseas students, but hardly any for ethnic minorities who are citizens of this country," he said.

Sir Roy, who comes from Barbados, said the chances of getting into higher education often depended on the class

New bid to set up centre

Warwick University is bidding to set up a Caribbean studies centre that will offer BA and MA courses and act as a focus for all the experts scattered in a number of British universities.

Warwick has put in a £250,000 bid to the University Grants Committee innovation and restructuring fund to create the centre. It feels the subject area has been surprisingly neglected given Britain's obvious ties with the region.

Apart from Warwick the School of Oriental and African Studies at London University offers an MA in Caribbean studies. Kent University offers a joint African and Caribbean studies BA with a strong literature emphasis. Sussex offers some Caribbean studies options and there are specialists at Hull, Oxford, Liverpool and Bradford universities among others.

Goldsmiths' College in London is also creating a centre for Caribbean studies backed by the Greater London Council, to develop the subject particularly in the adult and community fields.

Professor Robin Cohen, professor of sociology at Warwick, said: "There is no doubt there is an enormous gap in the study of the Caribbean in Britain. There are courses in every other world area but Caribbean studies is usually subsumed under Latin American or American studies."

Dr Lyn Innes, lecturer in African and Caribbean studies at Kent University said there had been more than 100 applications for 10 to 12 places on the Kent course this year, almost treble the number four years ago.

Warwick has already won a £75,000 grant from the Leverhulme Trust to run a five-year programme to host Caribbean academic visitors.

Consumers survey field

One of the first responses to the call for a national debate on the future of higher education has come from the consumers—the students. Birmingham University Guild of Students this week issued the first fruits of a survey of student opinion on some of the key issues in the debate.

And it has produced emphatic opposition to two year degrees, a shift away from arts and humanities, and closure or merger of institutions in the face of declining numbers after 1990. Of 1,643 students responding to the survey, only 9.6 per cent favoured two year degrees coupled with a longer academic year, while 86.6 per cent were against.

On a shift towards science and engineering, only 29.2 per cent were in favour and 63.4 per cent opposed. And only 19.8 per cent supported the closure of a significant number of universities and polytechnics in the 1990s if numbers fell, with 65.3 per cent against.

There was a large measure of support for the idea of a year's foundation course permitting students to transfer from arts to sciences or vice versa; with 49.2 per cent in favour and 36.6 per cent against.



The Prince of Wales exchanges bows with Sir Donald Barron, chairman of the Midland Bank, on whom he has just conferred an honorary degree at a Council for National Academic Awards ceremony in Edinburgh. Over 80 CNAAs graduates from all over the country were presented to the prince, who praised the CNAAs for enabling people "to take refresher courses and benefit from higher education when they really would appreciate it."

Wales in bid for Koestler bequest

The University of Wales, encouraged by its chancellor Prince Charles, has put in a bid for the £500,000 bequest left by Arthur Koestler to found the first chair and centre in parapsychology in a British university.

The bid has been made jointly by University College, Cardiff, and Saint David's University College, Lampeter. Two other bids from City University and Edinburgh University are also being considered by the executor of the Koestler bequest.

Prince Charles wrote a letter to Cardiff soon after details of the bequest were announced, urging the college to apply for the money. The college senate gave the idea its full support.

Dr C.L.W. Bevan, principal of Cardiff, said: "There are a lot of people who look down their noses at this kind of activity. But we are very open-minded lot, and we feel well able to pursue this kind of research."

The main psychology input would

come from the department at Cardiff, which will house the chair and act as the main research base, with the theological and religious input coming from Lampeter, where an associate fellowship would be based.

Dr John Bellof of Edinburgh University, who is executor of the bequest, said he wanted to make a final decision by the end of the year. He said three serious bids were being considered.

And he attacked "those who regard themselves as justified in grossly misrepresenting the activities of experimentalists", either to sway public opinion against use of animals in research or to sell newspapers.

In contrast to earlier waves of anti-vivisectionist agitation, he said today "terrorist groups from the Animal Liberation Front break into laboratories and persecute medical and agricultural scientists and use letter bombs to intimidate those who dare remind the public of the benefits that have resulted from animal experiments."

MSC awaits go-ahead to double adult training numbers

The Manpower Services Commission has published proposals to double the number of adults in training in two years through its adult training strategy.

The strategy, agreed by the commission last week, has been sent to education ministers and the MSC hopes for a response early next year.

The MSC has recognized that it is not the major contributor to adult training. It sees its role as focussing the national debate on priorities and working with others, most notably the Department of Education and Science, and acting as a broker to get common action taken.

The MSC is proposing a national awareness campaign to change the

attitudes of employers, employees and providers towards training. It wants to move towards a more integrated national framework of training.

By the end of the decade it wants to see a coherent framework of training and standard-setting bodies using local training and validating mechanisms to provide equal access to adults throughout their lives.

Central to the MSC's objectives is local collaboration with education providers and its own programme will largely reflect this shift in emphasis. Some projects will work jointly with the DES PICKUP programme with financial backing from the department.

A better communications system

built on existing information and training information framework is a more flexible training methods and strengthening of the Open Tech scheme.

The MSC's own programme involves a substantial shift of Training Opportunities Scheme money. It is planning its hopes on two main areas—more objective job-related training for employees and a programme to help jobless adults retain their employability.

The job-related programme includes elements to provide grant aid to employers for retraining and to supply training of jobs.

The controversial student loan scheme by which the Government would underwrite loans from the banks for individuals who want to enter retraining has gone forward. This is in spite of the fears that this might herald a reintroduction of loans in further and higher education as a whole.

Council plans for the worst

The Agricultural and Food Research Council is planning for the worst next year and its new corporate plan, to be approved later this month, envisages 200 lost jobs next year.

However, Dr Ralph Riley, the council's secretary, reaffirmed the AFRC's determination to increase support for university research this week.

Introducing the council's 1982/83 annual report, Dr Riley was speaking at the annual meeting of the Research Council's decision to cut his council's budget from next year would stand.

He said that the need to cut some programmes back while expanding or starting others gave the council the kind of management problem few organizations have faced.

The AFRC-supported institutes already abound with rumours about when and where the cuts will fall, but the sufferers have not been formally notified. However, the council has pointed to the research areas to be cut.

In arable crops, cereal production, livestock diseases, fruit and crop protection.

At the same time, the council wants to increase support for areas including food technology, plant metabolism, animal behaviour and hormones, human nutrition and electronic sensors.

Mr Geoffrey Myers, under-secretary to the AFRC, said they were studying ways of backing more research on short-term contracts.

Some of these contracts may well be in universities, and Dr Riley revealed that the first two agreements for joint research between AFRC institutes and university groups were nearing completion—between the Cavendish Laboratory and the Food Research Institute, and between the University of Bristol's physics department and the Meat Research Institute.

But in spite of these initiatives, Dr Riley admitted that the general outlook was gloomy. He made it clear that the budget cuts had been imposed by the AFRC against the council's will.

"I hope they're right when they choose to support high-energy physics, which involves perhaps 200 people in the UK, and we have to make people redundant for that support to continue," he said.



Glasgow University's Hunterian Art Gallery is holding an exhibition of the work of Margaret Macdonald Macintosh. This pen and ink and watercolour drawing of "Summer" is in it.

Natfhe women to defy executive over seats

by David Jobbins

Female activists are to defy leaders of the college lecturers' union and try to create reserved seats for women on key decision-making bodies.

At least three regions of the National Association of Teachers in Further and Higher Education are to discuss tomorrow whether rule changes should be tabled for next year's annual conference, setting aside seats for women on the union's national executive and national council.

Women behind the move are angry that the union's national executive shelved recommendations of a special group set up to consider the issues in favour of a declaration of support for the principle of reserved seats, and indicated it would not support rule changes for 1984. Instead the executive, which was far from united on the question, favoured an extended debate and careful monitoring of how existing policies are working towards increased participation by women in the union's activities.

Rule changes were tabled by the northern region for the 1983 conference but remitted when the executive announced it was setting up a working group to examine how best to tackle the problem. Many activists expected that when the working group reported in favour of rule changes, the executive would table its own proposals for 1984.

Others believe that the declaration of support in principle by the executive

is the best that can be achieved and fear that premature consideration of rule changes may jeopardize chances in later years.

But Ms Dalilah Hoffman, vice chair of the working panel, said: "The rule changes were remitted at this year's conference on the clear understanding a special panel would be set up to advise the executive, and rule changes would be formulated for 1984. It was a surprise to some of us most intimately involved in the panel that although the executive accepted it in principle, they were not prepared to put it into practice for this year."

"I do not think any of us who strongly support reserved seats necessarily think we are going to win the first time around. But it is important to keep the issue in front of the membership by bringing forward rule changes."

East Midlands, Ms Hoffman's region, is one of those discussing proposals. In its case, four extra seats on national executive and 20 on national council would be created so that extra women could be elected without displacing men to bring female representation close to its proportionate level among the members.

Currently, some 27 per cent of Natfhe members are women but there are only two women on the national executive. At the local negotiations level, only 4.6 per cent of liaison committee secretaries are women.

The rule changes will need a two-thirds majority at conference.

Liverpool v-c warns of change in cuts policy

Universities must be saved from further cuts in government funding if they are to repair damage caused by reduced incomes, according to the vice-chancellor of the University of Liverpool.

In his speech to the annual meeting of the university court, vice-chancellor Professor Robert Whelan said he was deeply concerned about sharp changes in government policy coupled with the threat of more funding cuts.

This does not help our efforts to produce a coherent response to the University Grants Committee, and to registers that we should admit additional home undergraduates," Professor

Whelan said. "We are still trying to reduce our student numbers to the level set in 1981."

Many problems had arisen from unplanned losses of staff through early retirements, he said. This was complicated by the fact that Liverpool's grant for last year made allowances for salary increases of only 4 per cent, when all staff were awarded increases above that.

Although many of the settlements were negotiated nationally and approved by the government, no supplementation of Liverpool's grant was made to cover them.

And because the university had to

make up the difference from its own resources—with salaries accounting for 80 to 90 per cent of total expenditure—the pressure to shed staff posts was greater than ever.

Despite financial pressures and problems with student numbers, Professor Whelan was able to report an expansion within the university, particularly in research.

The value of new research awards attracted up to June 1983 was more than £5m, an increase in real terms of 3½ per cent compared with the previous year, plus a further £2m research funds had been awarded since then.

overseas news

Increase in US enrolments

from E. Patrick McQuaid
WASHINGTON

Despite a shrinking pool of 18-year-olds, enrolments in American colleges and universities this term hit 12.7 million, up just over 1 per cent from last year.

According to the Association Council for Policy Analysis and Research, a coalition of Washington-based higher education organizations, much of the boost overall can be attributed to a "surprising" number of part-time enrolments. Mr Douglas Conner, executive director of the association, noted that while the overall head count may be higher, in contrast to demographic studies predicting a 25 per cent decrease in primary college age population between 1979 and 1990, "enrolment patterns are changing".

The rise in part-time students is noted for both the public and private sector. "Trade schools," said Mr Conner, "have been pushing full-time attendance for a while now," noting that unemployment may make full-

time studies more attractive for trade school students.

Elsewhere, some more surprising figures are reported by the National Institute of Independent Colleges and Universities. For the nation's 52 Catholic women's colleges, enrolments have grown faster and higher than for any other segment of the private sector. Colleges and universities affiliated or maintained by the Roman Catholic Church have experienced steady growth annually since 1978, according to a study by Notre Dame economist, Father Ernest Bartell.

For total enrolments, enrolment of full-time, part-time students, males, females, undergraduates and graduate students, Father Bartell reports that Catholic higher education has outpaced the entire independent sector.

In addition, growth in minority enrolments between 1978 and 1981 was greater in Catholic higher education than elsewhere in the independent sector, he said, and by 1981 minorities represented a larger share of total

enrolment in Catholic institutions than in other independent colleges and universities.

Financially, though, Catholic women's colleges have suffered more than their share since 1978. All of the institutional closing in the Catholic sector have been women's institutions, according to his report. *Trends in Enrolment and Finance*, published by the Association of Catholic Colleges and Universities, a wing of the national institute.

Catholic women's colleges are defined as those with less than 15 per cent male enrolment. Five Catholic women's colleges shut down during the study period, but overall, enrolments grew at 11.4 per cent, which is 11 per cent faster than in all combined enrolments for Catholic higher education.

Part-time enrolments at Catholic women's colleges was double the rate of growth throughout the Catholic sector, which Father Bartell attributes to "institutional efforts to extend programme offerings to new clientele," to older women in the workforce.

Australians to set up youth support scheme

from Geoff Maslen

MELBOURNE

The Australian government plans to introduce a national youth income support scheme to meet the needs of Australia's tertiary students, young people in training and those in the post-compulsory years of schooling.

The scheme would replace the present secondary and tertiary education allowance schemes and, eventually, dole payments to unemployed teenagers. It would not apply universally, at least in the short term, according to the federal minister for education and youth affairs, Senator Susan Ryan. The simplest method would be a universal payment to young people at a level they could live on. "Initially, that would be too expensive so we need to look at some way of targeting the groups who need support, without setting up a system that is as anomalous as the tertiary assistance scheme,"

Senator Ryan said, following a trip to UNESCO in Paris and the Scandinavian countries to study youth income and training policies.

At present, an OECD review team is in Australia at the invitation of the government to carry out an investigation into youth income and training policies. The team has been presented with a brief by the government and will be consulting with government departments and education groups across the country.

At the end of its visit, the team will produce a draft paper putting certain observations and proposals forward. The government has already prepared its own submission to go to the OECD. The paper presents a gloomy picture of future prospects for Australia's young people. Youth unemployment is likely to continue at a high level, the paper states.

"There seems to be a real possibility that youth employment rates may not recover, even in the longer term," the paper says. The paper canvasses a range of reforms and initiatives in youth policy such as:

- Some form of "youth guarantee"



Susan Ryan: a great deal of planning

whereby the government provides alternative opportunities in education, training and employment for a particular group such as school-leavers who otherwise face unemployment.

- Offering an allowance to students in secondary school and tertiary education which is so generous it does not encourage underemployment.

- Payment of the secondary allowance, as with the tertiary allowance, direct to students rather than their parents.

- Payment of a universal youth allowance to all those aged between 15 and 24.

The OECD team will focus on the planning that has already gone into the development of a national policy for youth. Following the absorption of the office of youth affairs from the employment ministry into the department of education, it had been upgraded and the groundwork laid for a new policy, rather than a consultative role.

Admissions schemes 'unfair'

from D. B. Udalgama

COLOMBO

The present system of university admissions denies candidates their right to places and Sri Lanka the services of the best of its potential human resources. This assessment of the system which has been in operation for four years has been made by five professors and a senior research officer.

Admissions are now based on 30 per cent merit, 35 per cent district quotas and 15 per cent allocation to backward areas.

The assessment is made in a memorandum sent by the academics to the committee appointed by the University Grants Commission to review the system, after the government

(and appointments to the public service) would be on an ethnic basis.

The academics point out that the cut-off point for admissions to faculties of medicine from districts like Colombo and Jaffna fluctuates around 10 marks for district quota admissions while for certain other districts it is around 180 marks.

"This means that a large number of candidates scoring even averages of over 60 in each of the four subjects are automatically denied university places under the present system. It cannot be denied that, while trying to compensate for possible injustice stemming from disparity in facilities district-wide, a much greater injustice is being perpetrated."

simply are not enough employees prepared or able to take on sandwich courses. There is a limit on the number of employers who can be convinced by the benefits and assisted by such things as tax concessions to take on sandwich placements. Third, there is the additional cost to public money which the UK system of sandwich courses incurs as a difficult issue for a government already trying to boost the economy without getting caught in an inflationary spiral.

The recently-introduced system of devolved government through the regions, and the enormous differences between the regions, create a fourth serious obstacle to advance.

It was agreed at a pilot seminar to set up a pilot scheme possibly in naval architecture or computing, and to arrange a trip to England by a Spanish delegation, but the difficulties were underlined long after the team returned to England, when the Spanish government announced that in the last round of cutbacks nearly half of its workers were to go in one of the major shipyards.

But Spain remains very much the outsider. First, there is the problem of fitting in the practical element to already lengthy university courses. Engineering, for instance, lasts six years. Second, the majority of employers are small businesses; there

while also increasing the vocational content of courses.

The British delegation included representatives from the CBI, the TUC and Ford Motor Company, as well as Alan Daniels, Malcolm Brower of Sheffield Polytechnic, ASET's secretary, and Dr Leslie Davies of Salford, chairman of the Universities Committee on Integrated Sandwich Courses. The Spanish team was headed by Sr Carmela Virgili, Secretary of State in charge of Universities and Research, and included representatives from the Polytechnic Universities of Madrid and Barcelona, the Spanish CBI, the communist trade union CCOO, and two educational trusts.

polytechnic University of Barcelona. Not all the experiences were good. Seville University's attempt at a sandwich-type course four years ago had not been a success.

Today, the educational climate in Spain has changed. In general, the year-old socialist government of Felipe Gonzalez has been concerned with the very high drop-out rate in Spain's universities, the low vocational content of most courses, and the lack of close cooperation between academic research and industry.

This last was a deliberate policy of the academics: up until now, selling their research to industry, or setting up commercial research companies under the aegis of their universities, has been barred from them.

Mr Virgili said the new University Reform Law will open up the avenues for increased collaboration between the two sectors, and the Ministry of Education now has the potential for sandwich courses to make the process

South Africa stands by separatist policy

from Carolyn Dempster

JOHANNESBURG

The government this week reaffirmed its commitment to separate ethnic education when it put the stamp on the future course of education in South Africa. The guidelines were contained in the official white paper response to the De Lange report on education, completed in July 1981.

Several key recommendations of the commission have been rejected, but many of the more practical and financial proposals are to be adopted.

Students will continue to attend separate ethnic schools and universities in line with apartheid policy. There are to be five ministers of education instead of the recommended single ministry of education (including the ministers of education in the self-governing and independent homelands this brings the number to 15) and the black community have once again largely been left out of the decision-making structures.

In line with the new constitution, whites, coloureds and Indians will be able to select their own ministers of education and education for the different groups will be discussed under "own affairs" at parliament level. In addition to these three ministers, there will be another minister and member of the cabinet who will oversee education matters which fall into the category of "general affairs". Black education will be attended to by the minister heading the education and training department (black education).

What is immediately apparent in the white paper is that while the overall structure of the education system will change, the essential apartheid policies remain entrenched.

However, the government has made a firm commitment to equal quality in education which points to ever-increasing spending on black education, and the improvement of schooling and technical facilities for blacks.

Most of the improvements are to be effected in the areas of school education and teacher training. The government has approved the establishment of a statutory body - the South African Council of Education which will advise the government on white, coloured and Indian education interests.

At tertiary level, the committee of heads of education, an advisory body, will be extended to include the heads of coloured and Indian universities. An advisory council on university and technicians is also established to advise the various ministers in these areas.

Professor Pieter De Lange, the chairman of the commission, hailed the white paper as a breakthrough in terms of financial and political realities.

Other reaction in the government response has not been so favourable. Prominent coloured educationist Mr Franklin Sonn said it was deplorable the government refused to waive the group areas act, which determines different race groups live in separate

lu, whose lawyers are already pointing to inconsistencies in the documents supplied to the court by the faculty as evidence.

The Higher Education Control board is investigating allegations of corruption and illegal reappointments of staff to other universities as well as the dismissal of over 70 teaching staff and over 30 administrative officials. Whatever the outcome of these inquiries, there is still no hope for teaching staff sacked under martial law regulations who will remain barred from public sector jobs even if martial law is lifted.

Meanwhile the Higher Education Council seems to be strengthening its hand through a new ruling making clear that its president has the power to reappoint university employees to other institutions. It thus appears, as one top university official put it, that teaching staff will just have to resign themselves to the state of sackings.

In the longer term, things could change slightly, as the government makes new appointments to the HEC every two years. But few believe that Professor Insan Dogramaci's domination of the council will be effected.

Over the last two years for one reason or another vacancies have been filled by individuals who had held other top jobs under the military regime, the latest example being former trade minister Kemal Canturk.

Professor Karol actually faces two separate inquiries, one by an administrative court in Ankara, the other by the disciplinary organ of the powerful Higher Education Council. The court case has been brought by dismissed research biologist Dr Atilla Yanikoglu.

Each class has about 40 participants comprising graduate students and civil servants. Several observers also attend.

One of the growing "invisible exports" of the United States is the giving of university courses abroad by the universities using specialists from their faculties. In addition to ordinary undergraduate courses, American universities are now supplying to an increasing extent courses in business administration and high technology subjects.

Some of these courses are for members of the US armed forces stationed abroad, but increasing numbers are for private enterprise, especially the employees of US corporations with interests in the Middle East and Far East.

Many of the courses abroad are being given during the US academic year and thus the home students are being deprived of the services of the professors and specialists involved.

This academic year for example, the University of Oklahoma has 65 courses at points around the world, including Guam, Panama, Germany, Spain, Hawaii, Japan, Okinawa, Korea and Saudi Arabia, while Oklahoma State University is heavily involved in Jordan.

Following complaints about the absence of lectures at the home university, the Oklahoma State Regents for Higher Education has intimated that it will not approve any further rounds of foreign classes without a proper accounting and detailed explanation by the two university deans.

Sexual harassment is widespread at Harvard University and has seriously damaged the academic careers of some women, according to the recently released results of a survey of 1,000 graduate students and 2,000 undergraduates at the university.

The survey found that 20 per cent of women graduate students and 16 per cent of women undergraduates reported serious harassment. Seventeen per cent of non-tenured women faculty members and 21 per cent of tenured women faculty members reported the same experience.

But when the definition of harassment was more widely drawn, to include looks, gestures and words, the

Chinese learn to manage

by Thomas Lamb

The World Bank's Economic Development Institute has produced a series of training courses in national economic management for China's top civil servants. The courses, necessitated by the bank's investment so far of \$908.5m in China - a good deal of it in higher education - break new ground by providing development planning tools applicable to different cultural and economic environments.

Similar courses may well be made available to people in the highest levels of economic and social planning in many developing regions - enabling them to put their limited financial resources to maximum use.

The training scheme is about to be evaluated with a view to its adaptability to other countries. It began three years ago with the visit of 30 high-level Chinese civil servants to the bank. The party comprised directors and deputy directors of departments and their senior officials involved in the development of the national economy.

Since then, about 650 top Chinese managers, bureaucrats and specialists have attended courses evolved for the country's specific needs by the bank's development institute.

Each class has about 40 participants comprising graduate students and civil servants. Several observers also attend.

lu, whose lawyers are already pointing to inconsistencies in the documents supplied to the court by the faculty as evidence.

The Higher Education Control board is investigating allegations of corruption and illegal reappointments of staff to other universities as well as the dismissal of over 70 teaching staff and over 30 administrative officials. Whatever the outcome of these inquiries, there is still no hope for teaching staff sacked under martial law regulations who will remain barred from public sector jobs even if martial law is lifted.

Meanwhile the Higher Education Council seems to be strengthening its hand through a new ruling making clear that its president has the power to reappoint university employees to other institutions. It thus appears, as one top university official put it, that teaching staff will just have to resign themselves to the state of sackings.

In the longer term, things could change slightly, as the government makes new appointments to the HEC every two years. But few believe that Professor Insan Dogramaci's domination of the council will be effected.

Over the last two years for one reason or another vacancies have been filled by individuals who had held other top jobs under the military regime, the latest example being former trade minister Kemal Canturk.

Professor Karol actually faces two separate inquiries, one by an administrative court in Ankara, the other by the disciplinary organ of the powerful Higher Education Council. The court case has been brought by dismissed research biologist Dr Atilla Yanikoglu.

Each class has about 40 participants comprising graduate students and civil servants. Several observers also attend.

One of the growing "invisible exports" of the United States is the giving of university courses abroad by the universities using specialists from their faculties. In addition to ordinary undergraduate courses, American universities are now supplying to an increasing extent courses in business administration and high technology subjects.

Some of these courses are for members of the US armed forces stationed abroad, but increasing numbers are for private enterprise, especially the employees of US corporations with interests in the Middle East and Far East.

Many of the courses abroad are being given during the US academic year and thus the home students are being deprived of the services of the professors and specialists involved.

This academic year for example, the University of Oklahoma has 65 courses at points around the world, including Guam, Panama, Germany, Spain, Hawaii, Japan, Okinawa, Korea and Saudi Arabia, while Oklahoma State University is heavily involved in Jordan.

Following complaints about the absence of lectures at the home university, the Oklahoma State Regents for Higher Education has intimated that it will not approve any further rounds of foreign classes without a proper accounting and detailed explanation by the two university deans.

Sexual harassment is widespread at Harvard University and has seriously damaged the academic careers of some women, according to the recently released results of a survey of 1,000 graduate students and 2,000 undergraduates at the university.

The survey found that 20 per cent of women graduate students and 16 per cent of women undergraduates reported serious harassment. Seventeen per cent of non-tenured women faculty members and 21 per cent of tenured women faculty members reported the same experience.

But when the definition of harassment was more widely drawn, to include looks, gestures and words, the

percentages reporting it in these four categories leapt to 41 per cent and 34 per cent, and 49 per cent and 32 per cent respectively.

The survey, carried out by Mr Sidney Verba, associate dean of the faculty of arts and sciences for undergraduate education, was based on questionnaires sent to all members of the faculty, males and females.

It described a range of activities as constituting harassment, ranging from unwanted touching and pressure for sexual activity, through pressure for dates and "unwanted leaning over and cornering," to sexual jokes, teasing and leering.

Participants were asked which of these acts they considered harassment, when done by someone in a

overseas news

South Africa stands by separatist policy

from Carolyn Dempster

JOHANNESBURG

The government this week reaffirmed its commitment to separate ethnic education when it put the stamp on the future course of education in South Africa. The guidelines were contained in the official white paper response to the De Lange report on education, completed in July 1981.

Several key recommendations of the commission have been rejected, but many of the more practical and financial proposals are to be adopted.

Students will continue to attend separate ethnic schools and universities in line with apartheid policy. There are to be five ministers of education instead of the recommended single ministry of education (including the ministers of education in the self-governing and independent homelands this brings the number to 15) and the black community have once again largely been left out of the decision-making structures.

In line with the new constitution, whites, coloureds and Indians will be able to select their own ministers of education and education for the different groups will be discussed under "own affairs" at parliament level. In addition to these three ministers, there will be another minister and member of the cabinet who will oversee education matters which fall into the category of "general affairs". Black education will be attended to by the minister heading the education and training department (black education).

What is immediately apparent in the white paper is that while the overall structure of the education system will change, the essential apartheid policies remain entrenched.

However, the government has made a firm commitment to equal quality in education which points to ever-increasing spending on black education, and the improvement of schooling and technical facilities for blacks.

Most of the improvements are to be effected in the areas of school education and teacher training. The government has approved the establishment of a statutory body - the South African Council of Education which will advise the government on white, coloured and Indian education interests.

At tertiary level, the committee of heads of education, an advisory body, will be extended to include the heads of coloured and Indian universities. An advisory council on university and technicians is also established to advise the various ministers in these areas.

Professor Pieter De Lange, the chairman of the commission, hailed the white paper as a breakthrough in terms of financial and political realities.

Other reaction in the government response has not been so favourable. Prominent coloured educationist Mr Franklin Sonn said it was deplorable the government refused to waive the group areas act, which determines different race groups live in separate

lu, whose lawyers are already pointing to inconsistencies in the documents supplied to the court by the faculty as evidence.

The Higher Education Control board is investigating allegations of corruption and illegal reappointments of staff to other universities as well as the dismissal of over 70 teaching staff and over 30 administrative officials. Whatever the outcome of these inquiries, there is still no hope for teaching staff sacked under martial law regulations who will remain barred from public sector jobs even if martial law is lifted.

Meanwhile the Higher Education Council seems to be strengthening its hand through a new ruling making clear that its president has the power to reappoint university employees to other institutions. It thus appears, as one top university official put it, that teaching staff will just have to resign themselves to the state of sackings.

In the longer term, things could change slightly, as the government makes new appointments to the HEC every two years. But few believe that Professor Insan Dogramaci's domination of the council will be effected.

Over the last two years for one reason or another vacancies have been filled by individuals who had held other top jobs under the military regime, the latest example being former trade minister Kemal Canturk.

Professor Karol actually faces two separate inquiries, one by an administrative court in Ankara, the other by the disciplinary organ of the powerful Higher Education Council. The court case has been brought by dismissed research biologist Dr Atilla Yanikoglu.

Each class has about 40 participants comprising graduate students and civil servants. Several observers also attend.

One of the growing "invisible exports" of the United States is the giving of university courses abroad by the universities using specialists from their faculties. In addition to ordinary undergraduate courses, American universities are now supplying to an increasing extent courses in business administration and high technology subjects.

Some of these courses are for members of the US armed forces stationed abroad, but increasing numbers are for private enterprise, especially the employees of US corporations with interests in the Middle East and Far East.

Many of the courses abroad are being given during the US academic year and thus the home students are being deprived of the services of the professors and specialists involved.

This academic year for example, the University of Oklahoma has 65 courses at points around the world, including Guam, Panama, Germany, Spain, Hawaii, Japan, Okinawa, Korea and Saudi Arabia, while Oklahoma State University is heavily involved in Jordan.

Following complaints about the absence of lectures at the home university, the Oklahoma State Regents for Higher Education has intimated that it will not approve any further rounds of foreign classes without a proper accounting and detailed explanation by the two university deans.

Sexual harassment is widespread at Harvard University and has seriously damaged the academic careers of some women, according to the recently released results of a survey of 1,000 graduate students and 2,000 undergraduates at the university.

The survey found that 20 per cent of women graduate students and 16 per cent of women undergraduates reported serious harassment. Seventeen per cent of non-tenured women faculty members and 21 per cent of tenured women faculty members reported the same experience.

But when the definition of harassment was more widely drawn, to include looks, gestures and words, the

Minister opens contest

from Barbara von Ow

MUNICH

More competition within and among West German universities is the theme of Bonn's higher education policy for the next decade as outlined by education minister Dorothee Wilms last week. In 16 theses on the structure of higher education in the 1990s Frau Wilms called for a revival of the universities' traditional competition for academic excellence. In the competition - on the basis of difference and diversity - the universities should vie for research funds, more qualified teachers and students.

To attract research funds the universities' autonomy had to be strengthened. "The competition between state universities and private research institutes had to be fair. Of a total of DM20 billion invested by West German industry into research and development last year, only DM120 million went to universities (the Bonn and Länder governments spent DM6 billion on university research in 1982). Only if they prove their competitiveness, universities could hope to attract more private funds, Frau Wilms said.

Many highly qualified German graduates found no academic jobs because they were often blocked by insufficiently qualified teachers taken on in the 1970s. In addition the mobility of academic teachers was further threatened if the government accepted a draft law passed by the Bundestag recently which would further cut their allowances.

On students Frau Wilms wrote that at present the universities were beleaguered by more students than they could cope with but this would change in the 1990s as a result of the slump in the birth rate. To attract the dwindling number of students, universities would have to develop "distinct profiles" with competitive degree courses.

The key to competition was diversity, she noted. It was in this respect that the comprehensive universities backed by the former Social-Liberal coalition had failed. While not wishing to abolish them she wanted the comprehensive universities to defend their existence in competition with others. The polytechnics, on the other hand, were very well placed and would be even more so if they strengthened the practical side of their courses.

The transition from school to university had to be improved and would-be students better prepared for higher education. But Frau Wilms made no reference to the widely discussed idea of transforming the thirteenth school year into a special "transitional year".

While rejecting the controversial concept of short term degrees, Frau Wilms called for university degree courses to be limited on principle to eight semesters, against an average of 12 at present. Shorter degrees, however, were no viable solution in view of the existing employment situation, she claimed. This was widely opposed by members of the West German rectors' conference who met Frau Wilms for discussions in Bonn earlier this month.

The rectors of Berlin and Konstanz university and the president of the conference, Professor Theodor Berchem, were among those who strongly defended the idea of shorter degrees.

position of authority. Ninety per cent named unwanted letters and telephone calls, physical contact, and pressure for dates.

However, only a quarter to a half of the respondents considered sexual stereotypes and jokes to be harassment, and fewer men than women were included in this category. A few men reported harassment; but the problem was most serious among female students and non-tenured faculty members, the survey found.

An appendix to the report lists vignettes of victimization, such as the woman faculty member who received anonymous advances from her committee chairman and who found, when these were rebuffed, that they became accompanied by veiled threats about

her career. An eventual complaint to the dean of the faculty of arts and sciences led to the professor in question being stripped of his committee powers, although he was not suspended.

Who are the Harvard harassers? The survey found that women graduate students are most likely to be harassed by faculty members, while undergraduate women are more likely to suffer at the hands of teaching fellows or tutors. "The position of the teaching fellow deserves special notice," the report notes. "This is clearly one of many areas in which inconsistent expectations by the parties involved may have negative consequences."

Sexual harassment is widespread at Harvard University and has seriously damaged the academic careers of some women, according to the recently released results of a survey of 1,000 graduate students and 2,000 undergraduates at the university.

The survey found that 20 per cent of women graduate students and 16 per cent of women undergraduates reported serious harassment. Seventeen per cent of non-tenured women faculty members and 21 per cent of tenured women faculty members reported the same experience.

But when the definition of harassment was more widely drawn, to include looks, gestures and words, the

percentages reporting it in these four categories leapt to 41 per cent and 34 per cent, and 49 per cent and 32 per cent respectively.

The survey, carried out by Mr Sidney Verba, associate dean of the faculty of arts and sciences for undergraduate education, was based on questionnaires sent to all members of the faculty, males and females.

It described a range of activities as constituting harassment, ranging from unwanted touching and pressure for sexual activity, through pressure for dates and "unwanted leaning over and cornering," to sexual jokes, teasing and leering.

Participants were asked which of these acts they considered harassment, when done by someone in a

Sexual harassment is widespread at Harvard University and has seriously damaged the academic careers of some women, according to the recently released results of a survey of 1,000 graduate students and 2,000 undergraduates at the university.

The survey found that 20 per cent of women graduate students and 16 per cent of women undergraduates reported serious harassment. Seventeen per cent of non-tenured women faculty members and 21 per cent of tenured women faculty members reported the same experience.

But when the definition of harassment was more widely drawn, to include looks, gestures and words, the

Medics 'could do better'

from Jessica Kuper

LEIDEN

Professor André Köbben, a Dutch school scientist, has traced the final school examination results of a sample of Dutch professors. They did rather well - substantially better than a control group selected from the same generation of *gymnasium* finalists. Moreover, they tended to do especially well in subjects which were relevant to their subsequent careers. Natural scientists scored brilliantly in science and mathematics, "humanists" in classical languages, and social scientists in history.

Scrapping the pork barrel

Cut-throat competition between American universities desperate for funds has begun to endanger the time-honoured principle that government research money should be shared out on the basis of peer review and scientific merit rather than the political muscle of individual institutions.

In recent weeks, two major organizations in the United States have felt it necessary to issue unprecedented warnings calling on universities to stop using "pork barrel" politics to persuade Congress to give them federal research funds for projects that have not been approved by expert reviewers.

A statement by the National Academy of Sciences called for vigilance to protect the peer review system. It added: "Informed peer judgments on the scientific merits of specific proposals, in open competition, should be a central element in the awarding of all federal funds for science."

One week earlier, the Association of American Universities, which represents 48 universities in the United States, called on its members "to refrain from actions that would make scientific decisions a test of political influence rather than a judgment on the quality of the work to be done."

Until recently the idea that major universities would pull political strings in Washington to win federal funds for their research projects would have seemed little short of fantastic. In the 1930s, the National Academy believed it was wrong for private universities to receive any federal grants at all. In recent years, however, the financial predicament of many universities has sharpened the competition for federal funds and persuaded some institutions to use increasingly sophisticated techniques to represent their interests in Congress.

The decision by the National Academy of Sciences and statements upholding the principle of peer review is a signal that some universities are beginning to overstep the mark. Although no universities were named in either statement, the moves have been interpreted widely as a public reprimand for two universities, Columbia University and Catholic University, which pulled off a spectacular feat of pork barrel politics when Congress was debating the government's 1984 budget last spring.

Theoretically, government research

WORLDWIDE

Selina Hunt on the latest US tactics in the scramble for cash

funds for universities are distributed by means of a complex procedure in which Congress, the executive branch and the scientific community play separate and clearly defined roles.

In what the AAU describes as "an admirable but fragile system," Congress appropriates funds for the support of broad categories of research. Subsequently, the relevant government department issues guidelines for making applications in a manner that ensures fair and open competition. Researchers then submit detailed proposals that are judged by committees of expert and disinterested scientists.

This system, the AAU claimed in its statement, "maximizes the scientific return on the federal investment by assuring that awards are made on the scientific merit of the proposal and the professional merit of the proposer."

Last April and May, however, Columbia University and Catholic University decided that they had pressing financial needs that were not likely to be met by relying on the traditional peer review system. Both universities employed a professional Washington lobbying firm, Schlossberg-Cassidy Associates, to gain federal funds for urgently-needed science facilities. This move resulted in Catholic and Columbia getting their money, but enraged other universities and provoked a stormy fight with the White House.

Catholic University needed a new building to house a successful programme of research being undertaken by its vitreous state laboratory. A request for funds from the department of energy was turned down, so Catholic - working on the advice of Schlossberg-Cassidy - decided to mobilize the considerable political clout wielded by the 15 bishops who sit on its board of trustees.

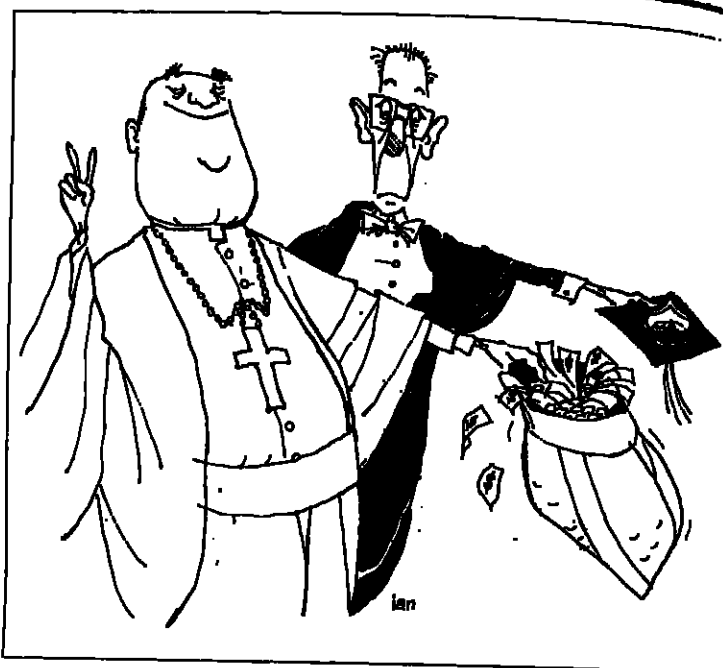
Over the next few weeks, powerful members of Congress received telephone calls from their local bishops, all singing the praises of Catholic's vitreous state laboratory. House majority leader James Wright, a Texas Democrat, was called by the Bishop of Fort Worth, Lindy Boggs, a Louisiana Democrat serving on the energy research appropriations committee, was contacted by the Bishop of New Orleans. And James Sensenbrenner, a Wisconsin Republican on the science and technology committee, was telephoned by the Bishop of Milwaukee.

The most influential Congressman to be contacted by the bishops' network was Tip O'Neill, the speaker of the House of Representatives, who was told by Boston's Cardinal Humberto Medeiros that the vitreous state laboratory was in dire need. O'Neill arranged for an amendment adding funds for the laboratory to be tagged on to the department of energy's authorization bill. After a brief debate, the House of Representatives voted to transfer \$5m from a proposed materials science laboratory at the Lawrence Berkeley Laboratory in California to Catholic's vitreous state laboratory.

Columbia University fared equally well. Attempts to get help to rehouse its National Chemical Research Centre having failed, Columbia turned to Schlossberg-Cassidy. On the same day that the house voted the additional \$5m for Catholic, it voted \$5m for Columbia. The amendment giving Columbia its money was proposed by the New York Democrat whose district includes the university campus.

The successful manoeuvres by Catholic and Columbia amounted to a masterful demonstration of pork barrel politics of a kind that frequently colours Congressional budget debates but is rarely used in academic funding decisions. The two universities must have expected some criticism for their actions, but were apparently unprepared for the degree of hostility they aroused.

By the standards of the government's overall research budget, the \$10m involved was a minuscule sum. What angered the White House, and that Catholic's fellow universities, is that Catholic's money was gained by transferring funds originally allocated for Lawrence Berkeley Laboratory's new materials centre - a project that was personally supported by Dr



George Keyworth, President Reagan's science adviser.

Ever since the White House announced its 1984 science budget in February, Dr Keyworth had trumpeted his plans for the centre - provisionally named the National Centre for Advanced Materials (NCAM) - as a model of the sort of development the Reagan administration was eager to encourage in American universities. NCAM was eventually to cost \$250m based around an advanced centre synchrotron light source, the centre was envisaged as an example of how universities, industry and the government should collaborate in exploring promising new fields of research.

As a first step, the White House requested \$30m in its 1984 budget to get NCAM started. The removal of \$5m so that Catholic University could rehouse its vitreous state laboratory would have been a bitter blow, but Congress infuriated Dr Keyworth by cutting the original \$30m request for NCAM to a mere \$3m.

To add insult to injury, Congress explained its attack on NCAM by complaining that the White House had hurried the proposal into the budget without going through the normal peer review procedures. The house appropriations committee said it was "highly unusual" for such a large item to be added to the budget so late in the day. It added: "The committee is also concerned that the customary and desirable peer review of this project

was not undertaken."

Congress's refusal to fund NCAM was a humiliating blow for Dr Keyworth. Although it had indeed been inserted into the budget process late in the day, the NCAM proposal had received far more detailed review than the laboratories at Catholic and Columbia. To make matters worse, Catholic University's president claimed that it was the way NCAM had been slipped behind him into the budget debate that had given him the idea of lobbying for money for Catholic's vitreous state laboratory in the first place.

Last month's decision by the AAU to call on its members to refrain from dipping in the pork barrel was a difficult one. Most universities - particularly the large research campuses represented by the AAU - work hard to nurture their political links in Washington. Both Catholic and Columbia are members of the association and argued that their actions last spring were justifiable attempts to find housing for well-regarded research projects.

Neither the AAU nor the National Academy of Sciences, however, are formally capable of telling universities what to do. From the point of view of the higher education committee, the important question may not be whether pork barrel politicking continues, but whether the bruised feelings of the president's science adviser have been soothed.

fees could go to increased scholarships leaving the remainder to boost university budgets. He also strongly favours a government-sponsored programme of student loans, repayable after the graduates establish themselves economically.

Israel's ongoing economic crisis has meant that during the past half a year, promised treasury funds have not been reaching the universities on time, "creating a severe cash flow problem," says Professor Patinkin.

This has given rise to a unbalanced university budget and to measures unprecedented in the past decade of the establishment of the Council for Higher Education - the obtaining of short-term bank loans by the universities. The HU is currently several million dollars in debt to the bank, the debt servicing has become a new headache. The Council for Higher Education last week ordered the universities to desist from taking out new loans.

Former Tel Aviv University president Professor Haim Ben-Shahar recently made a very gloomy assessment of the situation if the government continues to cut university budgets. "The technical advances of Israel's industry in recent years in electronics and computers, and their application to medicine and defence, were made possible by the research done by graduates of Israeli universities in the late 1960s and early 1970s."

"The possibility for today's graduates to make a similar contribution to the future is definitely smaller. Our economic development must be based on technological quality, efficient management, high productivity and international competitive ability. Far from contradicting future economic and economic needs, higher education accords perfectly with them. There is no other way."

The bishop in petticoats

It is strange that the women's movement has never taken more interest in Hannah More. A friend of Burke, Garrick, Reynolds, Johnson and Wilberforce, she was well known in her day as a playwright, novelist, social reformer and educationist.

Catherine called on the 69-year-old woman in 1814 and gave an account of their meeting in a letter to Joseph Colley, the Bristol bookseller: "It is no small gratification to me that I have seen and conversed with Mrs H. More - she is indisputably the first literary female, I ever met with - In part, no doubt, because she is a Christian..."

The comments recorded in his *Miscellaneous Criticism* are less generous: "...of all flattery the mutual flattery of religious professors is the most intense. Never shall I forget the amiable eclogue between Miss Hannah More and an evangelical countess, which I heard during a breakfast at Mrs More's."

There was certainly no tendency towards pietism in Hannah More as a young woman. She was born in 1745 at Stapleton, near Bristol and was the fourth of five daughters of a schoolmaster. From an early age she showed academic ability: she was taught Latin and mathematics by her father and continued her Latin studies with James Newton of the Bristol Baptist Academy.

The More sisters moved into Bristol in 1757 and set up their own school. The time was right for their venture. There was a new and prosperous middle-class in Bristol and a growing demand for the education of daughters as well as sons. The school flourished and in 1767 moved to fashionable Park Street.

It was at this time that the Bristol Library Society and the beautiful Theatre Royal opened their doors. Hannah More was a great play-goer and while still in her teens wrote plays of her own for production in school.

Before long, she became an accomplished dramatist. What enabled her to make this change was an unfortunate engagement at the age of 22. Three times a rich but older suitor proposed marriage, but failed to turn up at the church when the time came. Distressed and humiliated, Hannah refused any further advances. Unknown to her, her suitor had settled an annuity on her which offered a new independence.

She refused to marry and went to London. Here she met Edmund Burke, who was about to fight the parliamentary election which would make him member for Bristol. But it was David Garrick and his wife who gave her an entrée to literary London. Garrick produced her play *The Inflexible Captive* at the Bath Theatre Royal in 1775; two years later, he launched *Percy*, a play that remained popular until well into the next century. This was followed, in 1779 by *The Fatal Falshood*, but by the time it appeared on the stage, Garrick was dead.

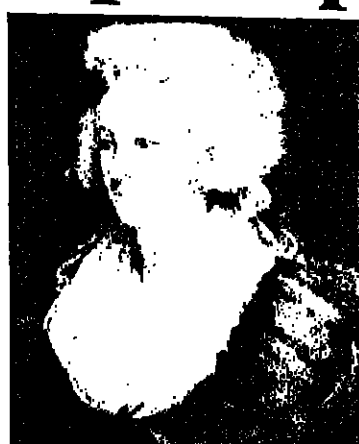
That loss, coupled with charges of plagiarism, led to her withdrawal from the theatre, but her poetry was becoming admired and she had become a well-known figure in London society, especially among the learned circle known as the Blue Stockings.

It was at this time that she became a friend of Dr Johnson. He was already in his sixties when they first met; as his spirits flagged with age and illness, he was particularly liable to be captivated when beauty was joined with conversational wit.

There can be no doubt that he enjoyed their sparring and sometimes the challenges she made to his judgment produced his best remarks. They argued about Milton; Johnson insisted that *Paradise Lost* had not been written by Milton, he would only have ranked among the minor poets.

Certainly Johnson admired Hannah More's poetry. Her *Bas-Bleu*, which described the meetings of the Blue Stockings and which circulated in manuscript before its publication in 1781, enjoyed a tremendous vogue; Johnson praised it in almost extravagant terms and when Hannah told him she was pleased with his admiration, he replied: "with the typical: And so you may be, for I give you the opinion of a man who does not rate his judgment very low in these things."

Although a young woman of high spirits and wit, Hannah More was essentially serious. She was not a prig and did not share Johnson's disapproval of French refugees who had fled from the revolution. Even the Clapham Sect, to whom she had been introduced by Wilberforce, did not identify with her ecclesiastical spirit.



Hannah More: woman of parts

However, she was sincerely religious and brought her considerable mind to bear on her religion. The story is told that she once challenged Johnson who was maintaining that all men are equal in the sight of God. Johnson was brought up short by her interruption, but when she referred to the gospel narrative which tells that Jesus loved St John "more than the other disciples", he was forced to say: "You have argued very well, Madam."

These may be debating trifles but the fact remains that at the height of her fame, Hannah More changed fundamentally the style of her life and became more explicitly religious.

Many reasons have been advanced for this: the death of her father, of Garrick and Johnson; disgust at the dissipation of London society; the influence of friends such as the poet Cowper and the ex-slaver turned Anglican minister John Newton. Here conversion, though, was not a dramatically sudden one but represented a long and deepening conviction that Christian faith demands practical expression.

Even in her London period she spent several months each year in her native Bristol. Here she witnessed a ferment of religious and political discussion, ranging from the enthusiasm of Methodism to the growing concern about slavery. Hannah was cool about Methodism and its founder, though Wesley sent her a message towards the end of his life commending her work.

It was her humanitarianism that attracted her to the evangelical group in the Church of England and to their campaign for the abolition of slavery in the West Indies. Her religion was essentially practical and not what was then described as "enthusiastic" (what today would be called "charismatic").

It was this practicality that led her to support Thomas Clarkson, who was busy in Bristol in the 1780s on the often dangerous task of gathering evidence from ships' crews to support the anti-slavery campaign. This connexion led to her long friendship with the abolitionist William Wilberforce whose book *A Practical View of Christianity* precisely echoed Hannah's own religious temperament.

Their meeting took place in Bath, where Wilberforce, 14 years Hannah's junior, was taking the waters on his doctor's instructions. Three years later, in 1790, Hannah and her sisters moved to Bath. The sisters, having retired from the school in Bristol, welcomed the gaiety of Bath; Hannah herself, much like Jane Austen, disliked the ephemeral pleasures of what she described as "gay, happy, inconsideable Bath".

Nevertheless, it was here that she continued her abolitionist work and started her programme of social and educational reform. It was to be a period of great trial for her: her worldly friends perplexed by her moral earnestness and her fellow believers not always satisfied with her orthodoxy.

In 1788 she had published anonymously *The Manners of the Great* which became a bestseller and she now followed this in 1790 with *The Religion of the Fashionable World* which ran to five editions in as many years and had a mixed reception.

Her friend Horace Walpole made only gentle fun of it and his niece, the Duchess of Gloucester, after reading it became a friend of its author and a supporter of her work. But many were outraged by its criticism of polite society and the lost many friends. As the other extreme she was criticized by her fellow Anglicans for occasionally attending a Presbyterian church in Bath and taking communion there and also for opening her house to French refugee priests who had fled from the revolution. Even the Clapham Sect, to whom she had been introduced by Wilberforce, did not identify with her ecclesiastical spirit.

The third and last of Hannah More's works addressed to the upper classes appeared in 1799. The main argument of *Strictures on the Modern System of Female Education* was that the reformation of society could only be achieved if women receive a better education.

Like Austen, she condemned a staple diet of novel reading which encouraged women to adopt the immorality "which custom, not religion, had tolerated in the male sex". The education she envisaged would be grounded on Christian doctrine and morals. She vowed never to read Mary Wollstonecraft's *Rights of Woman* and preferred to concentrate not on rights but on responsibilities.

By the time she wrote *Strictures*, she was immersed in producing her *Tracts* and in her educational work in Somerset. The *Tracts* were influential in her own day but have won her little commendation with posterity.

Mrs More was a Tory and when asked by those close to the Government (some said the Prime Minister himself) to produce a popular antidote to Paine and Cobbett, felt compelled to oblige. *The Cheap Repository Tracts* were addressed to the moral, religious and educational improvement of what were called the lower orders of society.

The Clapham Sect gave her encouragement and support but it was Wilberforce in particular who extended her efforts in a direction which lent her new fame.

During a visit to the sisters' cottage at Cowslip Green in the Mendips where they spent their summers, Wilberforce visited Cheddar, eight miles away, and drew the attention of the More sisters to the terrible condition of the villagers, who were sunk in squalor and ignorance. Together, he and Hannah toured the Mendips looking for the best sites to set up village schools.

As a good Tory, she felt that children would be educated to perform better the duties of their station; she had no revolutionary aims, but the Somerset landowners and farmers felt that education would create unrest while the Methodists resented the competition with their own weekly meetings. The established clergy thought they should retain strict control.

The story of the Mendip schools is one punctuated by ignorance, bigotry and hostility; Hannah persisted but the long campaign left her exhausted, her health undermined. The rest of her life was marked by periods of illness and growing isolation as her sisters died and her servants neglected and swindled her.

Recovering from illness in 1808 she decided to write a novel, *Coelebs in Search of a Wife*, her greatest success, selling 30,000 copies before her death. It is difficult today to understand this success. One is reminded of Johnson's remark about *Pamela*: "If you were to read Richardson for the story, your impatience would be so much fretted that you would hang yourself." The *Coelbs* is the simple one of the search by Coelebs, the rather priggish hero, for a suitable wife.

As a spinster herself, Hannah More had observed with an amused detachment the behaviour of her married friends while as one of five sisters she had known the strains of family life. The book was little more than a series of moral discourses which are made concrete and convincing only because they are embodied in fictional characters who engage our interest.

The *Coelbs* is a practical and religious. Hannah More avoided the enthusiasm of the Methodists, the ritualism of the High Church, the Calvinists' obsession with sin and punishment. It emphasized charity, which is now better known as "social justice".

Hannah More may sound too old-fashioned, too moderate and too distant to commemorate today but Cobbett regarded her as "the old bishop in petticoats" and, of course, an ironical one, but she did more for the advancement of true religion than most who sat on the episcopal bench in her day.

R. L. Brett

The author is professor of English at the University of Hull.

Bernard Crick



Dogdays and Maydays for Edgar at the Barbican

I have tried hard to get away from this self-destructive infatuation, this obsessive love-hate relationship which stops me writing bold, original, serious and interesting things about institutionalized higher education. Next week I promise to turn to another institution, though one equally obsessive and easy to get lost in - North London Polytechnic. What draws me back to the Barbican is not just that David Edgar's huge new play *Maydays* raises fascinating issues both of "what is theatre?" and "what is politics?", but also an extraordinary issue of responsibility in journalism.

The play has had exceptionally mixed reception. Mixed, best in that it has only provoked one of two reactions: either it is disliked it strongly and others admired it greatly, and in that some have reported a mixed reaction - not merely a "good in parts" reaction but a puzzled, conditional reaction.

For once I am with the mixed economy men and the Social Democrats. I'm in the middle and I can't make up my mind. Go and see it, and make up your own mind; it is very, very good in parts - funny, noble even, and some dramatic, effective scenes; and yet some strident, simple, cardboard cut-out and arse-achingly prolonged scenes.

In other words, it is a piece of epic theatre: it is very long (two intervals), it has many different scenes and it portrays fictional individuals in real historical events in different countries over a long period, from 1945 to 1983 to be precise, from a flag-waving, mock heroic Communist Party victory demonstration to the women on Greenham Common.

It is a study of the extreme Left, or rather of extreme Left groups (the plural is very important, and was missed by some critics whose eyes were blinded by blood and roses). It contrasts them both nobility and folly. So many characters are involved that characterizations become humorous, and there is little psychological depth; but recognizing so many of the humours as typical, the roles that people have played in my political lifetime, I found some of the scenes both wildly funny and sadly terrible.

Yet one soft-centrist had no mixed response. The political editor of *The Guardian*, Peter Jenkins, devoted half a page (he has not used that sort of space since the Falklands War) to an extraordinary attack on David Edgar (October 26, 1983).

Maydays with its cast of 50 occupies the vast acting space of the Barbican Theatre for three and a half hours. Lavishly staged there at some public expense by the subsidized Royal Shakespeare Company it is a play of declared political intent which, in its author, David Edgar's words, seeks to provide a "collective biography" of his generation.

Thus it began: a bad play, bad politics, bad thinking and an improper use of public money. That the last tolerant thought was not just an accidental splash of spume in Peter Jenkins' ill-tempered and unimpassioned review was shown by *The Guardian*'s front page lead-in: "If David Edgar's lavish *Maydays* is a memo from the Left to the Left, what is it doing on the Barbican stage?" (Regular readers of *The Times* must believe me, this was Peter Jenkins of *The Guardian* and not Peterborough of *The Telegraph*).

What I want to discuss publicly with Mr Edgar (at the ICA at lunchtime on December 8) is not whether the RSC should have staged his play, but what effect the sheer size and grandeur of that stage had on how he wrote the play. I hope Peter Jenkins will come. The text of *Maydays* is published by Methuen. Mr Jenkins writes in *The Guardian* on Wednesday: "The full Treasury report on the finances of the RSC (which finds them to be both efficient and underfunded) will be published soon or sometime."

of serious critics saying "bad play, bad politics and bad thinking" though I disagree; but I find it intolerable to say that a subsidized theatre, the "Royal Shakespeare Company" (I just say "RSC"), should not spend public money on such a play. That is their concern. Let us judge the merits of the play, and the public leave the seats empty if they don't like that kind of a thing. But I feel intolerant towards the intolerant. A very political political editor knows quite well that the RSC is currently under Treasury scrutiny and knows what kind of government we have in power. The opinion grows in Government circles that subsidized theatres and broadcasting media should only pursue either non-political or strictly balanced themes. His polemic was intended to damage the RSC not to reason with the playwright.

So angry was Mr Jenkins with what he wittily calls the "self-indulgent posturing and masturbatory impotence of revolutionary politics as practised by the Trots of the Seventies" (a word processor vile phrase, indeed are the poor Trots impotent to masturbate even?), that he doesn't seem to notice that David Edgar has, indeed, a very ambivalent attitude towards revolutionary enthusiasts.

He has some sense of their nobility of vision, but also of their folly, of the hardness and inhumanity of character they can create, and the ludicrous disproportion between what the broken-down, second-hand duplicator in the squat is churning out, and the sad squall itself. It is this in the play: the mixture of good and bad. The sadness and humour of it seem to have escaped the bully in the china shop. There is, for instance, a scene of a 1970s party on (in?) Muswell Hill that to me was both hellish and nostalgic, wildly funny; I had met everyone there, and often before in different costumes "20 years after", as Dumas remarked, indeed.

Yet in such an epic form, scene interacts with scene, not character with character; the leading characters often talked at each other unnaturally with too long a wind. I winced during many a monologue, but then half an hour later delighted to spot the shifts, evasions and revisions in a character's next long monologue, a few years later.

And David Edgar is a man of the Left, but as hard a man on his own camp as an Orwell. He has remarkable gifts of empathy. Mr Jenkins will not even grant him that. He says that his earlier play *Destiny* "prefigured the coming of neo-Fascism in Britain". Well, there was a little flourish like that in the last scene, but all the rest was an extraordinarily empathetic study of the interaction of different types of fascist, racist and ultra-nationalist. I was astounded. The Left-winger entered into their minds, did not rant and turned them to dramatic account within their psychologically closed world we saw a Shakespearean clash of characters with circumstance - just as in *Maydays* though, I think, less successfully. The epic form forced a pace and a simplification, more like his adaptation of *Nicholas Nickleby* than *Destiny*.

What I want to discuss publicly with Mr Edgar (at the ICA at lunchtime on December 8) is not whether the RSC should have staged his play, but what effect the sheer size and grandeur of that stage had on how he wrote the play. I hope Peter Jenkins will come. The text of *Maydays* is published by Methuen. Mr Jenkins writes in *The Guardian* on Wednesday: "The full Treasury report on the finances of the RSC (which finds them to be both efficient and underfunded) will be published soon or sometime."

Facing a slow death from a decade of cuts

Benny Morris talks to the President of Hebrew University

affirms that (the university) will be unable to sustain any additional cut in its budget. The government authorities must understand that any such cut will make it impossible for the university to remain open and perform its functions."

Professor Patinkin, one of Israel's leading economists, outlined the significance of the summer's \$7m cut from the HU's budget. Some 80 per cent of the university's budget goes on salaries, mostly to tenured staff. This means that almost the whole cut affects the remaining 20 per cent of the budget - which covers research, maintenance, operations, construction," said Patinkin.

Putting the summer's cut into perspective, Patinkin stressed that the country's university budgets have been "massively slashed since 1974, each year, whereas in 1974, the subsidy by the state of the universities amounted to 8 per cent of the government budget (excluding defence expenditure and debt servicing). In 1983 it amounted to some 4.5 per cent of the state budget."

Taking an overview, the Council for Higher Education, which acts as an intermediary between the universities and the government and regulates the universities' budgets and development, proposed that the universities' budgets be increased annually for five years by 6 per cent - in order to protect the damage done by the cuts of the past decade.

Professor Patinkin explains what the decade's cuts have meant by looking at the summer 1983 budget slashing. "We were forced immediately to lay off 60 younger academic staff and 175 administrative officials, cut down on help to PhD students and on post-doctorates. Taken together, this meant severe damage to our higher education," says Patinkin, adding that the loss of 60

the rolling heads at the university, many would-be academics would be deterred from pursuing academic careers or would emigrate, further harming the future of Israel's universities.

Professor Patinkin points to further immediate effects of the summer's cut. Laboratory hours have been reduced and supplies to the laboratories have been curtailed, affecting the level of research in the natural sciences. The cuts have also had a strong negative influence on book and journal buying for the universities' libraries, he says, and on working budgets for various research projects.

Some research projects, he concedes, are funded from outside reduced or self-financing has been cut. For example, the US National Institute of Health has this year cut research grants for Israel, and the US-Israel Binational Research Foundation has informed the HU that the university should not submit any new research proposals for next year, due to a lack of funds.

One effect of the swing of the budgetary axe has been a demagogic references by publicity-seeking politicians to so-called "academic" courses and departments, which Israel, it is alleged, "can do without." As the *Jerusalem Post's* higher education reporter Charles Hoffman always says: "First on the list is of which is guaranteed to provoke sneers. As a result, the government is reluctant to fund them. The universities find this type of retrograde criticism infuriating."

Much of the political and public

criticism of the universities is based on their rapid expansion during the 1960s and early 1970s which may have produced duplications beyond the country's needs, such as Haifa's two economic departments (in the Haifa Technion and in Haifa University). The Council for Higher Education and its key planning and grants committee, set up in 1974, was established specifically to restrain and order what had possibly become a wild academic proliferation.

But while the budget cuts of 1974/83 may have served some useful, efficiency-inducing purpose (as well as causing some real harm), the current cuts have left the university heads in a state verging on despair regarding the future of Israel's higher education system. "One cut attempt has met solid opposition from the student unions; the proposal to double university fees. The students last week held a brief strike, and threatened stronger measures should the fee doubling proposal be implemented."

Israeli students currently pay some \$500-600 in annual tuition fees. The treasury wants them to pay \$1,000. The students have argued that such a raise would keep many potential students out of the campuses and would cause others to seek jobs, harming their studies.

Professor Patinkin supports an increase in the tuition fees, "but not up to \$1,000," and suggests that it should be coupled with generous increases in scholarships for the "really needy." "The principle must be that no student should be denied a university education because of a lack of money," he says. Patinkin thinks that a balanced system could be worked out in which the state would fund the additional income waiting from the increased

University president and rector Professor Dan Patinkin appeared tired and somewhat remote when I interviewed him this week in his office in the Hebrew University's Mount Scopus campus.

"He's depressed and sleepless because of the budget cuts. He has exhausted every fundraising possibility. He doesn't know what to do," university spokesman Benny Morris told me after I'd left the rector's office.

Patinkin's mood matched that of the administrators of all Israel's universities this winter. It is - the new finance minister, Yigal Cohen-Orad's national austerity policy, which involves cutting some \$500m from the current fiscal year's state budget and some \$2 billion from the coming year, which begins next April.

Three months ago, the treasury under then finance minister Yoram Adot cut the state subsidies of Israel's six universities and the post-graduate Weizmann Institute of Science by a flat 10 per cent. With the treasury providing some 60 to 70 per cent of each university's budget, this meant a cut of some 7 per cent in each university's budget.

"The Hebrew University, for example, at a go lost some \$7m of its \$100m budget," said Patinkin. The treasury has now threatened the universities as part of Mr Cohen-Orad's current budget axe - with a further major cut, possibly as much as another 10 per cent.

The committee of the heads of the universities reacted, after a series of emergency sessions, by declaring that the summer's cuts had been the last the universities could possibly absorb, and that the institutions would have to close down immediately if new cuts were imposed.

As the Hebrew University's executive committee resolved in its meeting of November 6, "The committee re-

Author David Caute and publisher Gordon Graham take a look at the

Contacts and contracts

Professional writers depend, by definition, on their writing for a living. Academic writers do not. Hard-boiled, agent-orientated and union-conscious, the professional writer examines his contracts with querulous scepticism and fights for improvements, clause by clause. But academic writers, pleased, even flattered, by an offer of publication - the prerequisite of tenure and advancement - normally attach less importance to the commercial aspect of the transaction. The publication of a major work, the culmination of years of scholarly endeavour, is, after all, its own reward.

The distinction between "professional" and "academic" writers is not always clear-cut in practice. Many dons are worldly-wise, media-sharp, and well versed in the difference between "spin-offs" and "serial rights". Not every academic is totally dedicated to those esoteric cul-de-sacs of learning where driving in the right direction is the sole consideration. As university presses and academic publishers hasten to diversify their lists, so academics are increasingly keen to contribute to lucrative series (Modern Masters, Past Masters, Postmasters?) whose main objective (one assumes) is to spare the student the trouble of reading the masters themselves.

Increasingly academic writers wonder whether they are receiving a fair remuneration for their books. Publishers, for their part, are beginning to abandon the traditional authoritarian, you-shall-be-so-lucky attitude, demonstrating flexibility in negotiation and a willingness to modernize contracts. What they have so far stubbornly refused to do is to negotiate with the Writers' Guild and the Society of Authors a minimum terms agreement which would provide an effective and binding charter of rights for authors.

Contracts are not easy to read. As with the small print of insurance policies, one suspects that they are drafted to obfuscate the issue while stacking the cards in the publisher's favour. Nevertheless, every trade and profession generates its own specialized vocabulary, and authors have only themselves to blame if they make no effort to penetrate the jargon.

Negotiating on your own behalf with a publisher is not easy. Those who have seen *Educating Rita* may remember how the philandering professor invariably snatches up the telephone and pretends to talk "big" to his

publisher whenever his rival in love appears. Yet the publisher's business is business, yours is *From Chaucer to Conrad*. The fear persists that, if you make too many demands, require too many revisions of the contract, the genial voice from Bedford Square may suddenly grow cold and vanish in search of an alternative view of Chaucer and Conrad.

The average publisher's contract contains at least 21 clauses. One seizes on the advance payment, and the royalties offered, but beyond that one sees only procedures too self-evident to challenge or contingencies too remote to consider. The publisher has the initiative, the psychological advantage. He understands the ancient mysteries of the inexorable logic of his profession, flattered by his enthusiasm, euphoric at the prospect of patronage, most authors feel it would be morbid or misanthropic to sit down and ponder the real nature of the assault course that lies ahead.

There are two species of contract. One relates to a book already written and accepted; the other commissions a work wholly or partly unwritten. It is the commissioned work which tends to breed the greatest number of trials and tribulations for author and publisher.

Ideally one should write the book one wants to write, then submit it on completion (particularly true of academic writers, who don't really need £150 on signature of the contract to tide them through the coming year).

This approach has the immense advantage that whoever finally accepts the finished work knows exactly what he's getting. No recriminations, no harrowing deadlines either. But few authors - other than absolute beginners who can't hope for a commission - rest content with this salutary advice. Many books are published as part of a series; subject, length and format have to be agreed in advance of the writing. Many editors, furthermore, feel more "creative" or involved if they have either proposed the subject or at least talked it through at an early stage; the editor then becomes the "father" of the book,

the author becomes the "mother". Finally, one must admit that authors don't always know what they want to write; they need an initial boost, a lift-off, if they are to avoid horrible bouts of anomic and idle despair during the months of writing. They need a deadline and a daddy at the end of it.

Although contracts are not formally divided in the following way, I believe it is useful to consider the clauses in two groupings:

A. What the publisher requires of the author;

B. What the publisher offers in return.

A1. The license to publish: copyright. According to pious belief, only rogue publishers demand your copyright and therefore acquire total commercial and moral possession of your text, without limitation. In practice a "respectable" publisher may demand your copyright (the literary equivalent of Virtue) if the book is to be part of an illustrated series destined to be packaged and marketed worldwide. Always reserve.

The civilized procedure is to grant the publisher a license to publish the work, in volume form, in a specified geographical area (ie world rights, or only UK rights) for a specified period of time. Invariably the publisher will wish to maintain his rights for the full period of copyright (ie until 50 years after the author's death). This is highly undesirable: a 10 or 15 year license should be offered instead.

A2. Delivering the manuscript. Obviously this is no problem if the book has already been written and accepted. But commissioned writers are required by contract to deliver the finished manuscript by a specific date. It's amazing how self-destructively irresponsible academic authors can be about this, signing up for several different books simultaneously, then settling down to reviewing, tutoring, lecturing, travelling, buying a house and having a baby - all with the most innocent disregard for their pledged deadlines. They positively collect con-

tracts like cigarette cards. But a contract is a time-bomb.

"Dear Nigel," Not having heard from you for the past eighteen months, I thought it might be useful to have news of *From Chaucer to Conrad*, which, as you know, is due for delivery at the end of next month. . . . Oh God! Not a word written! He can't be right! Surely I've got another year?

Many publishers offer in practice a period of grace, but their contracts tend to threaten non-publication and annulment of the contract in the event of late delivery. The point is this: if for an assumed cost the publishers have developed cold feet about your book, then late delivery provides a contractual pretext for scrapping it. In a climate of recession, feel very cold indeed, lists are slashed, staff made redundant, cut, cut, cut. In addition, the publishers also demand, under contract, the return of whatever monies they have paid you on signature of the contract.

A3. Acceptance of the work. This sounds very nice until one considers the other side of the coin. rejection. This awful prospect is not fully and often in most contracts, but educational publishers in particular tend to claim unilateral right to annul the contract if they do not - for whatever reason - wish to publish the finished product.

If this calamity befalls you, and you believe you have written a perfectly good book, according to specification, then adamantly refuse to return any monies and counterattack by demanding payment of the remainder of the advance. Bear in mind that if the original commissioning editor has subsequently quit the firm, that may very well be the hidden motive for rejection by his successors.

A4. Paying for illustrations: the index. The majority of contracts require the author to pay for illustrations, maps and copyright permissions. The best solution is to cross out the word "author" and substitute "publisher". A tough line on this is usually effective.

Getting the publisher to pay for the index is much harder, because he considers it part of the text. You can either compile the index yourself or prepare for a nasty deduction for your royalties if the publisher is forced to hire an indexer.

A5. Paying for proof corrections. This is what I would call a "free yawn to yell" clause. Hardly worth a glance when you're signing the contract, this clause evokes yells, howls, and yowls when a letter like this arrives:

"Now that your book is finished and has gone safely to press, I am writing you about the Author's Corrections bill. According to your contract, you should expect to receive a bill for the original cost of typesetting the whole work. The typesetting bill for your book was £1,650.83. We had a correction bill of £769.27 as a result of your corrections to the proofs, and must advise you that the sum of £881.56 will be deducted on your next royalty statement. In addition there will be a deduction of £91.00 in respect of the index."

"With kind regards . . ." This letter (I have slightly amended the figures to conceal its origin) was sent by a leading academic publisher. Why does this publisher compel authors to pay for proof corrections in excess of 5 per cent of the original typesetting cost, whereas the norm is in excess of 10 per cent?

Now for some heavy advice: (1) accept nothing less than the 10 per cent formula in the contract; (2) make sure that you read, check and approve the final, copy-edited typescript before it goes to the printer; (3) demand two copies of the proofs, transcribe your corrections on the spare set, and retain it.

Perhaps it would be useful if I put a word here about that unduly neglected and disdained process, copy-editing. Your own text may be replete with inconsistencies of usage: 34% here, thirty-six per cent there; the *First World War* here, *World War I* there; *talk* to here, *talk* with there. You may be hopelessly at sea with your spelling, your s's and z's, or your initials. Capitals and abbreviations, maybe two additional nightmares: *USSR* or *Soviet Union*? *US* or *USA*? Is the

two sides of academic publishing

following correct: "Of all Western governments, the British government is the most . . ." Do we correctly speak of "quous" in general and "the quous" in particular?

Publishers may have a house style - a filter through which your text is passed. Or they may not, in which case the copy editor is employed mainly to bring consistency to your prose, plus a few of his/her own prejudices. This his/her business is no longer a joke; personal pronouns have become semantic dynamite, the NUJ's *Novelists' Code of Practice for Book Publishers* warns editors that *statesmen* are *supervisors*, and *milkmen* are *milk deliverers*. The author should be firmly insisted on having the last word, which in practical terms means checking the final, copy-edited text before it goes to the printer.

We now turn to Section B: What the publisher offers in return.

B1. When will the publisher publish? Good contracts say "within X months of acceptance of the manuscript". Bad contracts say nothing at all or take refuge in such vague phrases as "with due diligence" or "with reasonable promptitude". Naturally a 600-page masterwork, with quotations in six languages and complex diagrams, may take longer to publish than a 200-word quickie swiftly marketed to suck the sad soul of literature's best lubricated tit. But do get the publisher to agree a time limit and to inscribe it in the contract. It's also very useful to oblige the publisher to accept your text within a specific number of weeks of receiving it - this is a universal source of aggravation and despair.

A general rule: publishers tend to adhere to the letter of the contract or hastily to make amends if it is pointed out to them that they have not.

B2. The advance payment

This is where you wake up, eh? Unfortunately I cannot say anything useful about sums of money, or what is a "reasonable" advance, since that depends entirely on the book and its potential sale. Some "academic" publishers offer no advance at all; they may not even offer a royalty on the first 500 copies sold. If you are tempted to accept, re-read Marx's comments on the *lumpenproletariat*.

An advance should be payable half

on signature, half on publication, in the case of a book already written and accepted. In the case of commission contracts, why not ask for a third on signature, a third on delivery, a third on publication? Better still - a half on signature, a half on delivery!

B3. Royalties. If a publisher does not offer royalty payments on a book of which you are sole or joint author, then have nothing to do with him. A royalty must be paid on every copy sold. It should not be less than 10 per cent of the retail price of a hardcover book (but some publishers argue that they cannot afford more than 7½ per cent in a time of acute recession). Royalty rates should escalate to 12½ and 15 per cent after a specified number of copies have been sold (say, 3,000 and 6,000 copies respectively). Be wary of, and inquisitive about, the notorious clause which seeks to reduce the royalty in the event of a "small" reprint. Why do some publishers define "small" as 500 copies, some as 1,000, some as 1,500, some as 2,000?

B4. Subsidiary rights. Good luck with the film and television serial rights of your forthcoming book, *Great Bores (or Bore-Holes) of the World*. More to the point, if you license your British publisher to market your book in America, and perhaps in translation as well, make sure that you receive your proper due from the sublicensing of local rights to an American or European/Foreign Language publisher. Most educational or academic publishers will attempt to retain an unreasonable high proportion of such earnings - and the absurdity of the system is confirmed by the anarchic plurality of terms offered. Don't accept less than 80 per cent of American and translation earnings.

B5. Paying the money. Royalty statements and accompanying payments should be made twice a year. Educational publishers, including the largest, tend to offer only annual statements and payments. There is no excuse for this, it's merely a device for drawing interest on your money.

B6. Free or complimentary copies. Demand twelve. Settle for ten. Don't accept the standard offer of six. American publishers always provide ten or a dozen. Ask for 20 copies of any



paperback edition.

(Never send free copies to close friends or colleagues in your chosen field. After all, who else would dream of buying your book?)

Finally, some general points. If you wish to possess the ideal contract from the author's point of view, as a source of enlightenment and reference, then you should join the Society of Authors or the Writers' Guild and acquire their joint minimum terms agreement. The practical problem is how to negotiate and argue with your publisher if you are not represented by an agent. Unless you are an utterly brash and fully confident of your mastery of the jargon, it must be advisable to negotiate by letter.

Now for the Aunt Agatha. Here we transcend contractual cunning and aspire to true wisdom. A publisher's printed contract is not a reliable indica-

tor to his actual performance. He may not in practice implement his crueler, medieval penalties. He may, despite his "bad" contract, sell more copies of your book, and distribute it more energetically to reviewers and booksellers, than another publisher offering a "good" contract.

A major publishing house is a fairly complex organism, divided into departments which handle editorial work, copyediting, design, the sale of rights, marketing, contracts, accounts, promotion and publicity. But the critical figure from the author's point of view is the editor, a single figure whose commitment to the book can be relied on. Make sure, at the outset, that you know who your editor will be; that they genuinely believe in your book, or project; that they are not on the verge of leaving the firm (a constant problem) or, dare I say it, of taking six

months' maternity/paternity leave? The ideal editor is above all a ferociously observant critic of the text. She (women predominate in this highly skilled but ill-paid vocation) will challenge every factual mistake, dubious argument, mixed metaphor, banal repetition, cliché and solecism, presenting you with a long list of queries and suggestions.

Better by far that you encourage your devoted editor to purge your text of blunders in a climate as confidential as the confessional, than that your hated rival Blogs should expose you to ridicule in the review pages of *The THES*. Though he probably will, anyway.

The author was a member of the executive council of the Writers' Guild, 1976 to 1983.

The Good, Bad and Ugly

Publishers, in common with academics and vicariously, tend to think by the year. If profits went down last year, it was a Bad Year, and this has to be a Recovery Year. If profits went up last year, it was a Good Year, and this has to be a Year of Further Progress, at least, or a Year of Consolidation, at best. Large publishers make annual Business Plans. The largest make Five-Year Strategic Plans. Some small publishers fly by the seats of their pants, but even they are annualized by their tax returns.

The year of publication is one of a book's vital statistics, the others being the author's name, the title, the number of pages and the price. Last year's titles become "back list" which, like high-flying graduates or wine laid down, are supposed to become better with the passage of more years, but don't always. Back list titles which go into many printings are the main providers of publishers' profits and authors' royalties.

So, when a publisher says that it was a Good Year, he means two things. He had a good crop of new titles and his book list was selling well. On both counts, 1982 was a Bad Year, for Britain's academic and professional publishers. Library funding fell again. (Everyone sees book-buying as a painless, area for economy.) Textbooks remained low in students' purchasing priorities. Photocopying was getting out of hand. Piracy was eroding export markets. None of this was new. It all simply got worse.

This buffeting in the marketplace was aggravated by a self-inflicted wound. The year 1981 saw a dramatic and unprecedented fall in title output. In 1980 had about 16,000 titles and new editions had been published in major academic disciplines. Librarians and booksellers had been buying for a long time that too many titles were published. Suddenly publishers seemed to have been hit by a giant's foot. The 1981 total was about 14,000 and 1982's tally was still below the 1980 total.

But, of course, it was not sudden. Nothing in book publishing is sudden.

Publishers had signed fewer contracts in the recession years of the late 1970s. The gestation period from author contract to publication explains why publishers tend to have their recessions - and their recoveries - after everyone else. Signing up more titles in a recession is like buying shares in a bear market, and publishers are no braver than other investors. Their overheads are jumping, their sales are not. So why tie money up in so many new titles? The thin harvest comes a few years later.

Not 1982 have fewer titles to sell. Fewer copies of each title were printed. The downward spiral theory of book publishing runs something like this. When the number of titles published grows faster than the sales revenue, fewer copies of each title are being sold; which means that fewer copies of the next comparable title will be printed; which means that the price of the next title will be correspondingly higher; which means that still fewer units will be sold; which means lower profits, because the publisher's fixed costs are amortized over the number of books he sells, not the number he prints.

A publisher's understandable reaction to this prospect is to refrain from publishing what he judges to be marginal titles. Any author who failed to get a scholarly monograph published recently will know what a marginal title is. The odds against them are too high. Publishers, like punters, know the wisdom of their bets only after the race. While all publishers live, each year, with their judgments of the previous year's British academic and professional publishers' judgments are more complex than others because their markets are diffuse and worldwide. There are about 70 significant UK academic and professional publishers, with annual turnovers ranging from below £100,000 into the tens of millions, and profits from 20 per cent of sales to losses. The same percentage, total annual sales, are about £200,000,000 - about one-fifth of the

total revenues of all British publishing. About half of the academic and professional sales are exports. The United States is the biggest export market. Europe, India, Japan and Australia are significant markets. In 1982, sales revenue went down in real terms overall and in actual money for some publishers. In the social sciences and medicine, revenues declined seriously.

These trends were worldwide. 1982 was also an unexciting year for the US's principal competitor - the United States. But the Americans have vast home market. Sales of American academic and professional books in 1982 were nearly £1½ billion - seven and a half times the size of the UK. The UK market was based on a title output little larger than that of the UK. There were about 19,000 US academic and professional titles published in 1981, an increase of 900 on 1980. In 1982, the number fell slightly. US publishers had also drawn in their horns - a little. But the US academic book market is not only much larger than that of the UK, it is more securely funded. Half of it consists of college textbooks, sold within one copy per student and none. Sales of a successful US college textbook run into hundreds of thousands a year at prices British publishers can never match.

Although only about 15 per cent of US academic and professional books are exported, Britain is their second biggest market after Canada. The US tends to be inhospitable to the English language, feel, look and read foreign.

For the British, unlike the Americans, experts are the key to prosperity. The UK market is too small to support its own academic and professional publishing industry. British publishers are rightly proud of their export achievements. Yet export depends on discounts, credit risks and travelling expenses all higher than in the home market, can be a mixed blessing. When exports reach 70 per cent of total sales, as they do with many medical books, British books

years in the precarious world of books

begin to resemble Swiss watches, their national identity being in their origin and not their use. Many larger UK houses have reduced their export dependence by becoming local publishers in their major export markets, for example, Australia, Asia, South Africa, Canada and, latterly, the United States. British-owned academic and professional publishing outside the UK may well total a further £100m of annual turnover.

During the 1950s and 1960s, US academic publishers established branches in the United Kingdom. During the 1970s, British publishers began to return the compliment and professional books had been sold mainly in the United States under US imprints, or not sold seriously at all. High student enrolments and generous library funding made the US a burgeoning market in the 1960s. Growth has levelled off, but the US is still an El Dorado of US professional books, powered by lavish direct mail, reach remarkable totals by British standards.

The well-known defect of the whole British book market applies as much to academic and professional books as to novels. Book use far exceeds book purchase. A university librarian writes to publishers recently seeking permission to make five or six copies of selected chapters of certain textbooks with a view to lending the copies to students, a dandy way of spreading knowledge, but not of sustaining a publishing industry, or encouraging authorship. Publishers' Association has recently completed formation of the Publishers' Licensing Society in the hope of recovering fees for photocopying, but has had a gruff reception so far from the academic world: because it would involve the cost of record-keeping as well as copyright payments.

British academic publishers feel embattled by photocopying in the developed world and by piracy in the developing world. They have led the world in combating the latter through lawsuits,

propaganda, detection and a fighting fund of several hundred thousand pounds. Publishers feel that anti-piracy is a struggle in which UK academics should also feel involved. The large export markets, cultivated over decades by assiduous and skilled British salesmen, have helped UK publishers to sustain a richness of output not enjoyed in, say, France or Sweden. Its publishers believe that the UK academic book should be seen, not as an aggravatingly expensive artefact poured out in willfully undisciplined numbers, but as a great and glorious institution to be nurtured for the sake of its authors, its readers and its time. British academic and professional books have been sold widely in the United States under US imprints, or not sold seriously at all. High student enrolments and generous library funding made the US a burgeoning market in the 1960s. Growth has levelled off, but the US is still an El Dorado of US professional books, powered by lavish direct mail, reach remarkable totals by British standards.

The future of British academic publishing if going to depend on the virtuosity of its practitioners. There are no new markets to be uncovered. It is prudent to assume that unit sales per title will continue to decline. Whether they do this because of fragmentation of disciplines, restricted library funding, inter-lending, photocopying, piracy or electronic substitutes makes no difference to the publisher who sits down each day of his year to ponder the two questions that will keep him in business - how many should he print and what should he charge?

The least of the academic publishers' worries about the future is the one most publicized - that the book is going to be superseded by the computer and the terminal. The scholarly journal, both companion and competitor to the book, may have a degree of vulnerability, because it attempts the technicality at which the computer is adept, but the book is secure as a vehicle for reflective, portable reading. Indeed, the new technology boldly used in the writing, editing and printing of books, will be of great help in combating the only real and serious threat to the book, which is the proposition that it is not an item of intellectual property. The unpaid use of the book is the only thing that could

kill it. Technology is beneficial. Only its misuse, as with the photocopier, is damaging.

The jargon of information technology tends to obscure the fact that the act of publishing is not changed by using a different vehicle. An academic or professional book is "a database". Its future depends on making it more "friendly to the user". One way to do this would be to speed up its abysmally slow production cycle, which the word processor is promising to do. In the future the author will set his own "type" and will be electronically on line to his editor. The Gutenbergian processes of sub-editing, typesetting and proof reading will be eliminated. Very short-run printing will become economical. Publishers are learning not to be deterred by a small demand, provided that they can recover their investments, pay their authors and cover their overheads. Thus technology is beginning to assist the publisher, although he needs the cooperation of his authors to reduce the time from seed to harvest.

Technological adaptation, making the book faster and cheaper, could be called the first pillar in the future prosperity of the book. There is no technical reason why the instant book should not be commonplace before the end of the century. Thus title output would not be reduced. But some of the books would not be placed in the warehouse. They would be "made to order".

It is fashionable to deprecate the number of titles published. (Every publisher knows that every other publisher is prone to over-production.) The Bookseller calls any increase in title output "unwelcome". Unwelcome to whom? Not to those who write and read. The only books unwelcome to publishers are unsold inventory. Title output is not only a response to need, but also, in hard times, what keeps publishing on an even keel, keeping the kind of publishing industry which it is which has to tell an author that he has written an excellent and needed book, but that it cannot be

published? The publisher's job is to find ways to publish all worthwhile books. Only poorly written, irrelevant or duplicatory books should be unpublished, and this, too, is the publisher's job, as gatekeeper.

US management consultants recently analysed the success rate of wildcaters in the oil business. They sought to correlate those having the best geologists, the best equipment, etc with the strike rate. But they found, that the success rate corresponded simply with those who drilled the most wells. Publishing is a little like this. The one-in-seven well that yields oil becomes the oilman's back list.

Publishers do not have much in the way of a collective consciousness. Their joint actions, through the very active University College and Professional Publishers' Association, tend to be defensive - photocopy licensing, lobbying for better library funding, taking pirates to court and so on. The triffid of competition makes their strategies individual. This means that their huge to their important constituents - teachers, scholars and librarians - is ill-defined. Publishers have a tendency to woo their authors ardently before contract and cherish them fondly after contract - until their manuscripts are delivered, and then to leave them in benign neglect. They have a tendency to talk with university teachers only when they seek endorsement of their textbooks. They have a tendency to regard librarians as adversaries rather than allies. The library relationship is also clouded by the scholarly, or learned, journal, to which the librarian feels manacled by the requirements of his constituents and of the prices of which he is critical.

If British academic and professional publishers were to get together in an endeavour to elevate their vision above the humps and valleys of Good Years and Bad Years, a consensus charter might run like this: **AUTHORS:** We must attract good authors, satisfy their aspirations, monetary or other, and nurture our

relationship with them. **NUMBERS:** We must not be diverted by restricted numerical demand from publishing every worthwhile book.

SPEED: We must reduce the interval between author contract and publication.

COST: We must use technology to reduce unit costs and consequently prices.

MARKET: We must concentrate effective marketing on the consumer in the UK, and throughout the world, especially the United States. **PROTECTION:** We must continue to band together against copyright erosion by whatever means.

LIBRARIES: We must strive to reach an understanding of interdependence with librarians everywhere.

BOOKSELLERS: We must engage the cooperation of booksellers everywhere as willing and adequately rewarded intermediaries. **DATABASES:** We must be ready to get into the business of on-line services, collaborating with one another where appropriate.

PROFITS: We must satisfy our shareholders. Not one of the goals is easy. Not one of them is minor. Not one of them is dispensable. Some of them militate against others.

At the Frankfurt Book Fair in the second week of October 1983, the atmosphere was buoyant.

Walking down the miles of aisles, a first-time Frankfurt visitor asked: "How can there possibly be buyers for these thousands and thousands and thousands of new books?" To which a grizzled veteran of 27 Frankfurts replied: "There aren't. We lose money on every book we publish. But somehow, when we put them all together, we manage to make a little." "That's been true so far," persisted the neophyte, "but what about tomorrow?" "Tomorrow," said the veteran, sloping his seat reflectively, "tomorrow is another book".

The author is chief executive of Buiwerth & Co.



A century since Krakatoa, H. H. Lamb examines the effects of volcanoes on the weather

News of the eruption of Mount St Helens in the state of Washington in 1980 and the devastation it caused, and the actually much greater eruption of El Chichon in southern Mexico in March-April 1982, caught the imagination of a wide public. It has been suggested that these events will affect our climate for some years to come. The disasters by flood and drought and other extremes of weather that have affected particularly the third world in 1983 have lately caused an exceptional appeal by relief agencies such as Oxfam to governments and peoples in the better-off countries to rise to meet the extent of the emergency. Are these events connected?

This year is the hundredth anniversary of the great eruption of Krakatoa on an island in Sunda Strait in the East Indies on August 26/27 1883. Much of the island and its mountain, together with other, smaller islands in the strait, disappeared into the sky or fell back as "humps" into the sea. It is estimated that between six and 18 cubic kilometres of solid matter were blown up into the atmosphere. The column of finer debris, described as dust or ash, towered 27 kilometres high over the volcano. The city of Butavia, today's Jakarta, 180 kilometres away, despite its latitude near the equator, was in darkness for four to five hours around midday on the 27th. Ash falls were appreciable on islands up to 2,000 kilometres away, and the sound of the main explosion was heard in south Australia, and Rodriguez Island, near Mauritius, up to 5,000 kilometres from the volcano. The dust veil in the stratosphere spread around the world within a few weeks and later spread over the whole earth.

By a lucky chance, regular instrument measurements of the strength of the direct radiation from the sun had been begun in that very year at Montpelier in the south of France. (Such measurements are now made routinely at a wide network of observatories.) Some months after the eruption the strength of the solar beam showed a decline, and between 1884 and 1886 the deficiency at times amounted to 20

Blowing hot and cold



Clouds of steam, gas and ash spewed from Mount St Helens when it erupted in 1980

to 30 per cent. The spread of the dust veil around the world made itself apparent also in unusually beautiful coloured sunsets and prolonged twilight; for the reduction of the direct solar beam is largely, though not entirely, compensated by an increase in the diffuse radiation from a large area of the sky around the sun.

The Royal Society in London nominated a committee of leading scientists in many fields to gather information and report on all aspects of the eruption and its effects. Among those effects was an apparent lowering of the surface temperatures, when averaged over much of the earth, by several tenths of a degree centigrade. The report which this august committee produced was published in 1888. No other eruption has ever been the

subject of such a comprehensive report. Until the explosion of Mount Agung in Bali in 1963, the 1883 eruption remained the most thoroughly investigated case and no other eruption approached it for magnitude. It therefore stood as the classic example for nearly all writing on volcanic eruptions and climate. The Agung eruption presented the first opportunity for comprehensive study using modern technology. Aircraft were used to capture samples of the volcanic material in the stratosphere for laboratory measurements of particle sizes, chemical analysis and so on. About the same epoch also, some useful understanding of how volcanic ash and aerosols spread in the stratosphere was gained from observation of the progress of trace elements after nuclear bomb tests.

This year is also the two-hundredth anniversary of another of the greatest eruptions known, that of Laki in Iceland in May-June 1783, which produced the greatest volume of lava from any eruption anywhere in historical times. Estimates of the lava flow range from 12 to 27 cubic kilometres. In its now solid state, it may readily be seen by travellers from the airport to Reykjavik today. Generally, lava eruptions do not come into the question of possible effects on climate, because the bulk of the material never enters the atmosphere. But the 1783 Laki eruption produced a great output of ash and gases as well. Enough of it fell from the sky to destroy crops in Cathness, in northern Scotland. And in June the sun was so dimmed even in southern France that it could not be seen until it was 17 degrees above the horizon. In Italy it was described as red and rayless. And in August 1783 there was another great eruption, of Asama in Japan.

These coincidences do not mean that volcanic activity recurs in a neat 100-year cycle. An even greater eruption, of Tambora, in the East Indies, in April 1815 disposes of that. On that occasion 150 cubic kilometres of rock went up in the explosion. And other great eruptions have not fitted the 100-year sequence. Nevertheless, great outbursts of eruptive activity have marked the last two decades of the sixteenth and seventeenth centuries as well.

The 1783 and 1883 eruptions have been important milestones on our way to understanding of the subject. In 1784 Benjamin Franklin, who was then living in Paris as the first diplomatic representative of the new United States of America, wrote about the "constant dry fog" over all Europe and of North America in the summer of 1783, weakening the sun's rays so that they would hardly kindle brown paper under a burning glass. He suggested that it was due to the Iceland volcano and might have so reduced the seasonal heating of the northern regions that the surface froze early in the ensuing autumn, which led on to a winter of exceptional severity. Franklin proposed that the occurrence of preceding severe winters should be examined for possible association with such volcanic activity.

Little could be done to follow up these suggestions before the publication

of the first long series of temperature records by W. Köppen for large areas of the northern hemisphere in 1873 and an improved series (again in the *Meteorologische Zeitschrift* in 1914). A systematic list of great volcanic eruptions, with some numerical estimate of their magnitudes, was also needed. The first useful listing was produced by Karl Sapper in the *Zeitschrift für Vulkankunde* in 1917. With the lengthening series of measurements of the solar beam also then available, W. J. Humphreys, in his *Physics of the Air*, in 1920 could outline the effects of volcanic particles in the atmosphere on the earth's gain and loss of radiation. (Passage of the earth's outgoing long-wave radiation is much less impeded than the incoming solar radiation with its concentration in the shorter wavelengths.)

Soon, too, A. Defant demonstrated that there was a weakening of the gradients of average barometric pressure, and so of the mean wind circulation, over the north Atlantic in those years between 1880 and 1905 when great eruptions took place in the lower latitudes. In 1940, A. Wagner in Austria followed with the suggestion that the general warming of climates in the twentieth century, which lengthened the growing season and shifted floral and faunal boundaries, could be due to the prolonged full in volcanic activity after 1912.

Other chronologies of volcanic eruptions have been worked out since, the more recent ones paying special attention to the extent and duration of the dust veil in the stratosphere. The latitude of the volcano is important here: stratospheric veils produced by eruptions in latitude within about 20° of the equator spread ultimately over the whole earth; those from volcanoes in high latitudes seem effectively confined to the middle and higher latitudes of the hemisphere concerned.

The author is emeritus professor and founder of the climatic research unit at the University of East Anglia.

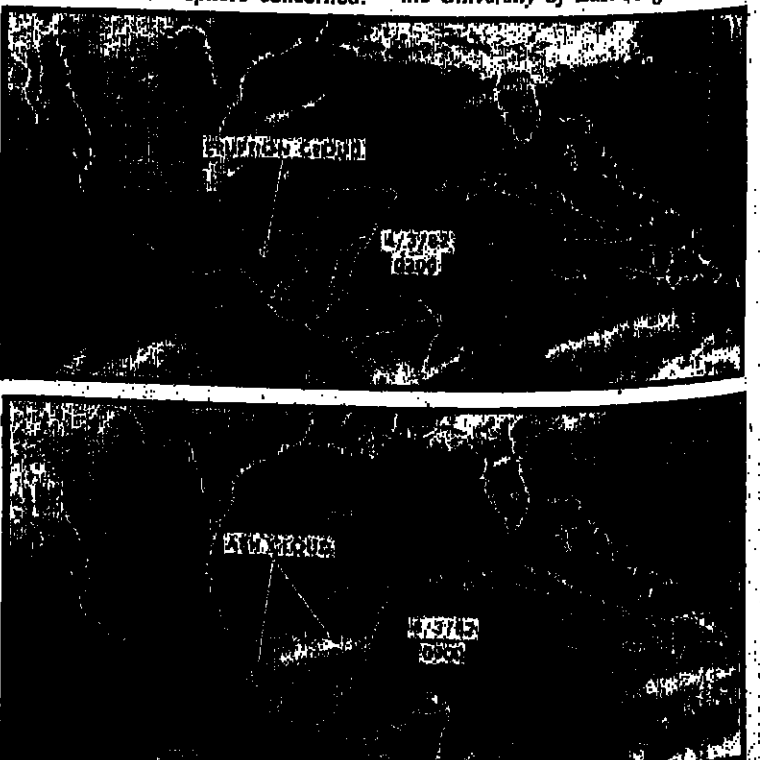
The latter arrangement may increase the overall equator-to-pole temperature contrast in that hemisphere and so provide increased energy for the winds, whereas a veil covering the whole earth – by weakening the lat supply to all latitudes – should weaken the temperature gradients and the wind circulation.

Various sorts of analysis of the stratospheric veils following eruptions in the last 20 years have revealed that it is not only the height reached by the "ash column" over an explosive eruption and the sizes of the particles in it that determine the duration of the veil. Besides the solid matter, gases and vapours are shot up into the stratosphere. Water vapour, carbon dioxide and sulphur oxides are prominent in proportions differing from volcano to volcano and from case to case. The sulphuric acid contribution to the aerosol layer may be even more effective than the solid particles in intercepting solar radiation, and experience from the 1982 eruption of El Chichon shows that it may be diffused by circulations in the stratosphere to much greater heights than the initial ash column. The column above El Chichon reached about 17 kilometres, though within a few days observations of the stratospheric cloud over Hawaii indicated heights up to 30 kilometres. Month after month and other techniques indicated aerosol at heights up to 39 kilometres, and the displays of luminous night clouds around this summer's solstice may mean that some water vapour from El Chichon has since reached the 80-kilometre level. This manifestly tends to prolong the "life" of the veil.

A recent study by Dr P. M. Kelly and C. Sears at the University of East Anglia of the sequels to four great eruptions in the last 100 years showed a significant lowering of northern hemisphere temperatures in the first 16 months after the eruption. And a similar study by P. Handler of the University of Urbana, Illinois, of 10 great eruptions since 1809 found dramatic changes of sea surface temperatures in the Pacific – such as have occurred in extreme form this year – over the same average lapse of time. Moreover, this is an item regularly associated with changes in the wind circulation and weather over the whole globe. Many studies have by now identified certain shifts of pattern (involving blocking or southward displacement of the westerlies) over the north Atlantic common in such cases.

It is important to extend and improve our knowledge of the past history of the climate and of volcanic activity. If we are to put these studies on a firmer statistical basis, and to learn more about the differences that occur from case to case. Closer study of the available temperature history curves makes it clear that not all the vagaries and trends of climate can be accounted for by the cooling effect of volcanic veils or the warming effect of our ever increasing output of carbon dioxide into the atmosphere from the burning of fossil fuels.

The author is emeritus professor and founder of the climatic research unit at the University of East Anglia.



Satellite pictures show the spread from the El Chichon eruption

BOOKS

Too much scholarship

by Alan Ryan

The Collected Papers of Bertrand Russell, volume one: Cambridge Essays 1898-99
edited by Kenneth Blackwell, et al
Allen & Unwin, £48.00
ISBN 0 04 920067 4

It is a moot question whether Bertrand Russell's reputation will ever again be as high as it was in the early 1950s. At that time, he was about as respectable a figure as he had been in his life – in 1940, his sovereign had given him the Order of Merit (though he had somewhat spoiled the effect by muttering "queer looking chap" to one of his aides at the investiture), the BBC had chosen him to give the first of the Reith Lectures, his sceptical, anti-communist radicalism suited the postwar mood perfectly, and at the age of eighty he fulfilled the layman's ideal of what a philosopher ought to look and sound like. His numerous marriages, his avowed lack of religion, and his record of unsonorous opinions on sex, education, patriotism and much else only induced an agreeable frisson in those who thought intellectuals ought to be a bit dangerous.

By the time he died in 1970, the extravagance of his campaigns for nuclear disarmament, and against the American intervention in Vietnam had pretty well destroyed his reputation. This was largely the fault of those who surrounded him – and especially of his secretary Ralph Schoenman, whom Russell eventually and belatedly dismissed and publicly repudiated. Under Russell's name there came out a stream of denunciations of the United States as uniquely responsible for all the horrors of Vietnam and all identifiable threats to world peace, coupled with appeals to the Soviet Union to intervene in Vietnam and escalate the struggle against imperialism. This wouldn't have been so bad, had it not been coupled with an inability to keep off any topic which might discredit the US government – up to and including the assassination of John Kennedy.

For most of his life Russell was exceedingly unwilling to credit the underlying moral virtues he probably didn't have; Russell thought that being persecuted made most people nastier rather than nicer. But in the final ten years of his life, what came out under his name claimed that the Viet Cong were peace-loving, almost endlessly tolerant of the injuries done them by American imperialism, and astonishingly scrupulous in their defence of their homeland. Again, Russell had always been entirely casual about racial matters – he loathed the racism of the American Deep South when he encountered it in the 1920s, but what he objected to about western imperialism was its propensity to erupt in wars which threatened western civilization, not its impact on the third world. But now he was saying that the Vietnam war was essentially racist, a device for killing American blacks by setting them to fight Asians.

Not surprisingly, many people concluded that he'd either gone ga-ga and fallen for nonsense he would uncaringly have identified as such a few years earlier, or had fallen into the hands of wild young men who were using him for their own purposes. Neither was calculated to make the world think well of him. The fact that he was undoubtedly right about how much more dangerous American foreign policy was than Russian foreign policy was lost sight of.

Russell Archives – the vast collection of Russell's manuscripts, letters and other papers, which McMaster University purchased in 1968 – were an artefact of the last years of Russell's life. Thinking of ways of making funds for the Bertrand Russell Peace Foundation, Russell decided to publish his *Autobiography* and to sell off his papers. The *Autobiography* hardly ever comes up at this point: all those who are interested in the subject know how the work gets steadily less and less interesting, less and less intimate, less and less convincing as it goes on. On his life up to 1914, it is riveting; on his life after 1914, it is pretty thin; the final volume, which takes him from 1940 to 1967, is more or less worthless.

The Archives are a very different kettle of fish. Their usefulness to Russell's biographers is easily estimated by a look at Ronald Clark's *The Life of Bertrand Russell*. Where the material is not embargoed for one reason or another, it is indispensable – which is one reason why Clark is very readable on such personal matters as Russell's relations with Lady Ottoline Morrell, and why Jo Vellacott has written such a splendid book on Russell's work with the No-Conscription Fellowship. But Russell's second and third wives have quite reasonably refused to have their lives opened up for the same inspection, and Russell's activities in the nuclear disarmament movement are similarly kept under wraps. Clark is, in fact, very good on Russell's last years, but pretty thin on the thirty years between his marriage to Dora Black and his re-emergence in the vanguard of the anti-nuclear movement.

This, of course, would not matter if we were all absolutely convinced of Russell's standing as a philosopher, and if the Archive yielded tremendous insights into that side of his life's work. The curators of the Archive at McMaster University are convinced of Russell's genius, and equally convinced that Russell's *Collected Papers* will disclose the secret of that genius. They propose to publish no fewer than 28 volumes – the first 10 volumes will be papers in philosophy, logic and mathematics, then his essays in politics, literature, history, and current affairs. All of which raises the dreadful question – do we need them, and what shall we learn from them?

My own view is that apart from real specialists, who are eager to know exactly how and when Russell changed his mind on particular issues, most readers will find that there's altogether more here than any reasonable person wants to read. Russell was not a great drafter. He explained to an American student in 1929 that by the time he set pen to paper – in fact, by then he was already dictating most of his work to a secretary – he had chewed over in his mind just what it was he wanted to say, and so could produce the finished item at the first draft. Nor was he much of a writer of letters. Almost from the beginning, he was keen to use everything he wrote to the maximum advantage. He frequently reviewed the same book in three or four different journals; essays were slightly revamped for different audiences and different outlets. The collected papers, therefore, are going to contain an awful lot of stuff which is repetitive in itself, and which repeats what is already accessible to interested readers.

There is one area in which this is less true, and that is Russell's political writings from about 1900 to 1930: aside from the enormous amount he wrote during the First World War for *The Tribune* – the journal of the No-Conscription Fellowship – there are articles from long dead journals like

The Guildman and the *English Review* in which he tackles such perennial issues as the possibility of workers' control in industry, the rule of direct action in a democracy, the place of central government in a decentralized state, the expansion of educational opportunity in the postwar world, and the issues of war and peace which preoccupied him all his life. Since Russell could so easily have become the intellectual leader of British radicalism, these are well worth putting out in a permanent and more available form. For the rest, it's not clear to me that the Social Sciences and Humanities Research Council of Canada couldn't have done the world of scholarship far more good by subsidizing the Bertrand Russell Archive in the production of a cheap bibliography of Russell's work, a detailed catalogue of his holdings, and the production of cut-price photocopies for those who needed them.

Still you might say that even if a job's not worth doing, it's none the less worth doing it well. This first volume is edited with enormous care; it contains Russell's adolescent diary, essays he wrote for the "crammer" he went to at Southgate before he went to Trinity, some graduate essays in ethics, papers he read to the apostles, and some essays in the logic of geometry – the subject in which he got his Fellowship at Trinity in 1895 – and they are provided with 80 pages of "annotations" and 55 pages of textual notes. Morally admirable though such efforts are, the enterprise still seems intellectually misconceived.

Take one small example. The notes to item No 30, an essay on *Pleasure* that Russell wrote for Sidgwick in July 1893 – Russell took the moral sciences tripos after his BA in mathematics – contain the information that "Veronese" refers to Paolo Veronese (1528-1588), Venetian painter, and that "Simon Stylites" refers to "St Simeon Stylites (c.390-459), best known of the ascetics who lived on pillars". Wouldn't anyone who's interested enough in Russell to be reading his (not very exciting) first shots at ethical theory know who Veronese and St Simeon Stylites were already? And, if they didn't, is it the job of the editors of this volume to remedy the defects of their elementary education?

Of course, it's nice to have people mentioned in Russell's diaries identified for one – that "Mr Mahoney" is probably Captain Frederick H. Mahoney who joined in the inspection of the 1st Richmond Company of the Boys' Brigade in 1890 is just the sort of arcane information we do want. Even then the editors don't know when to stop. Russell writes that he "took Rochat out on the Pond in Metrodora", and the editors solemnly tell us that Metrodora was "probably the name of a boat".

Forty-eight pounds is a lot of money to fork out for the supererogatory on a scale like this. All the same, it can't be



Bertrand Russell

denied that the contents have their charms. The adolescent diary, called "Greek Exercises" reveals a wholly recognizable Russell already. Russell was always a sentimental adolescent, and much of his text for life seems to have come from an adolescent sense that what happened to him was more painful/pleasurable/significant than what happened to anyone else; like all adolescents he swung violently between despair at the present and equally unbridled optimism about the future – and that makes for a certain verve to his writings on almost any subject.

And he certainly could write; there is a splendid little piece called "Loving or Hedonism?" which Russell read to the Apostles in March 1894, in which he asks whether women should be admitted to the Society. It opens in character: "The subject of my paper has no connexion with its title, and it would be a waste of time to explain how I came to think that it had."

How I came to think that it had. The subject is whether mutual sexual intercourse would overwhelm the Apostles' ability to discuss intellectual topics. With the liberal's usual confidence that talking about sex puts one off it, he declares "Of course, before electing any woman some member would have to promise that she was perfectly ready to discuss unnatural vice in case the subject should come up, and not merely to discuss it, but to discuss it in

a perfectly unartificial manner, without the feeling of doing anything unusual or perhaps a little naughty. And where this could be promised, I think one may safely say that freedom of discussion would be antagonistic to the beginnings of love."

Another paper for the Apostles, "Seems, Madam? Nay, It Is" is intellectually more interesting, as it is the first declaration of Russell's independence from the Hegelianism of McTaggart. Russell devotes his few pages to denying that there's any point in the philosopher trying to show that Reality is good when all we really know or care is that the world we live in is full of disagreeable phenomena. If God's in His heaven, all is not right with the world – we live in this world, not in His heaven, and all is not right with where we as a matter of fact are. This seems to be the first time Russell stood up for a principle he later enunciated in objecting to Meinong's account of the "subsistence" of non-existent entities, like round squares or the Golden Mountain – that we should preserve our sense of reality in even the most abstract subjects.

I can't help feeling that the sponsors of this project ought to have paid more attention to that principle too.

Alan Ryan is a fellow of New College, Oxford.

Nuclear debates

Unholy Warfare: the church and the bomb
edited by David Martin and Peter Mullen
Blackwell, £12.00 and £4.95
ISBN 0 631 13453 0 and 13454 9

This anthology purports to carry further the debate about nuclear weapons into which the Church of England, a politically important constituency was drawn by the unilateralist report *The Church and the Bomb*. This report recommended complete, phased British withdrawal from all involvement with nuclear weapons, combined with continued membership of NATO. General Synod rejected this proposal in favour of a compromise motion calling on NATO to adopt a policy of no first use of nuclear weapons.

Martin and Mullen consider the issues so complex that a studied and balanced presentation of the whole argument seemed desirable. "Their

chosen format is not promising: 24 short essays with the minimum of visible interconnection, and with some of the principal contributors (E. P. Thompson and Tony Benn, for example) neither noted for, nor displaying here any keen interest in, those issues which are peculiar to the debating of nuclear weapons by an established church in a nuclear-weapon state. The result is, not surprisingly, a ragbag which includes vigorously written brief polemics by great names including Enoch Powell and Lord Chalfont; pertinent contributions by undoubtedly relevant authors including the bishops of London and Salisbury, and intriguing material for an entirely different kind of inquiry, notably an essay by Bernice Martin on the popular culture of unilateralism.

Perhaps the most newsworthy feature of the book is the shift of position of the chairman of the group which produced *The Church and the Bomb*, John Baker, Bishop of Salisbury. Having outlined five questions to which he thinks his group was right to direct attention, he says the weakest point in the report was a failure to get to grips with the internal dynamics of NATO, and

with the need to modify the nuclear weapons policy of the alliance as a whole, not just that of one member state. Nothing has been said to change my personal conviction that an initiative by the West could usefully take the form of removing one nation from the world nuclear weapons line-up. But that result must be achieved by a different route from the one we suggested. (Pages 221-2)

It is a pity that the editors were not able to clarify this enigmatic statement by persuading the bishop to assess the detailed proposals contained in the essay in this volume by Dr Paul Rogers, since these aim to maximize the impact of British initiatives, which are presumably the prime concern of the Church of England. In the absence of such clarification, it is hard to know where the leading Anglican proponent of unilateral initiatives now stands in the debate.

On the compromise motion for a no-first-use declaration, the physicist Sir Nevill Martin presents a broad argument in favour, while some of the relevant considerations of the other side can be found in the essay by General Sir Hugh Beach, though not

presented as such. There seems to have been a remarkable lack of speeches by senior Anglicans in favour of no-first-use since the Synod debate. One gets no insight from this volume into why this is so.

One of the most useful features of the volume is its making available the transcript of an important anti-unilateralist talk by Graham Leonard, Bishop of London. This and other multilateralist articles in the book concentrate on very generalized arguments in favour of a system that is deemed to have kept the peace for thirty-odd years. If one is to judge from this anthology then *The Church and the Bomb* has failed as an attempt to inform public debate about nuclear weapons, for the generalized polemics assembled here ignore almost completely the issues of proliferation and of the crisis in nuclear strategy and arms control which the earlier report singled out as crucial to any up-to-date discussion of the bomb.

Barrie Paskins

Dr Paskins is lecturer in war studies at King's College London.

THE TIMES Concise Atlas of WORLD HISTORY



A very Concise Offer

If you take out a year's subscription to the Times Higher Education Supplement, in addition to your 52 issues of the THES you will receive a copy of the International Best-selling Times Concise Atlas of World History (worth £12.50) absolutely free. This beautifully produced book containing over 300 dynamic maps has been described as "The best single volume of universal history available". Simply complete the coupon below and send it together with your cheque/P.O. for £25.00 (made payable to Times Newspapers Ltd) to the address shown.

Please note: offer applies to new subscribers in the U.K. only. Please send me a year's subscription to the Times Higher Education Supplement and my free copy of The Times Concise Atlas of World History. I enclose my cheque for £25.00 (made payable to Times Newspapers Ltd). Please send to:

NAME _____
ADDRESS _____

SIGNATURE _____ Date _____
Please send this coupon with your cheque to FRANCES GODDARD, The Times Higher Education Supplement, Priory House, St Johns Lane, London, EC1M 4BX.

BOOKS

A grand coalition

The City and the Grassroots
by Manuel Castells
Edward Arnold, £35.00
ISBN 07131 6370 4

Manuel Castells's large book is a study of urban social movements, starting with the revolt of the Comunidades de Castilla in 1520, moving straight to the Paris commune of 1871, the Glasgow rent strike of 1915 and a disturbance in Veracruz in 1922, before settling in to accounts of modern urban revolts in Paris, Madrid, cities in the United States, and squatter settlements in Latin America. It ends with an attempt to formulate a cross-cultural theory of urban change.

Castells has moved to the University of California, and his Gallic logic and pessimism has become infused with American pragmatism and progressivism. Whether for this reason or not, the book is by turns irritating and enlightening. It is prolix, repetitive, and often woolly (the reader seeking a summary of his theory should consult pages 311-331), but his knowledge and insights make it desirable reading for all students of urbanism, and perhaps for the wider audience concerned with the crises of modern society.

For Castells the city is the spatial representation of the social conflicts and contradictions caused by the power structure of society. His earlier books pioneered the study of urban conflicts and inequalities as a product of the capitalist system. His critique of the consequences of capitalism has in no way abated, but he now finds that Marxist theory is incapable of explaining the kinds of social transformation sought after and occasionally achieved by urban social movements. This is because such movements are not simply class conflicts, although they are partly that, but are also expressions of other types of protest (such as those of exploited women and ethnic minorities), and also deeply because they play a counter-culture of cultural diversity and local autonomy against the specialization and depersonalization of life caused by technocracy and the pursuit of profit.

On this view an urban social movement is to be distinguished from a radical political party, because it seeks a basic change in social values and not simply a position for political bargaining. Castells points out that political parties have failed to absorb such movements as radical feminism, gay liberation, and ethnic minority rights. He might also have mentioned environmentalism and the peace movement, since his own evidence shows their relevance to the urban counter-culture in such matters as the protection of historic buildings and open space (instead of their absorption for profit), and in such symbolic but suggestive actions as the declaration of nuclear-free zones by numerous municipalities.

Castells's prescriptions for a successful urban social movement are extremely demanding. He sees the paradigm movement as pursuing goals and facing adversaries on three planes: the demand for adequate collective consumption (housing, transport, and so on) and the control of land and property speculation; the creation of cultural variety and vitality and the enjoyment of social life; and the employment of local self-management for localized self-government. The respective adversaries are: the capitalist bourgeoisie (especially landowners and speculators), technocracy, and the state with its centralized bureaucracy.

These are difficult adversaries to take on simultaneously, and most of the urban movements that he chronicles ended in failure or limited gains. Thus the protest movements in the *grands ensembles* of suburbanized state housing around Paris won some success against the public services, but over-reliance on public services, but failed on the cultural and local governmental levels. The urban liberation movement in San Francisco succeeded in establishing its own way of life in one part of the city, but squeezed out some poorer workers and came into conflict with ethnic movements. His one success story is the urban revolt in Madrid, which on his account successfully pursued all three goals during and after

the end of the Franco regime; but here also some cracks appeared in the movement as some of its leaders were co-opted by political parties, and the present prospects of the movement are left uncertain.

Castells's theories are at odds with his evidence. Limited gains are often all that a grassroots social movement can hope to achieve, and they are often well worthwhile for the people concerned. To go further a specifically political movement is surely necessary, and it is here that one must doubt Castells's view that a social movement can successfully integrate forces which a political party cannot absorb. Somehow Castells is hankering after the notion of a grand coalition of all those groups who are alienated and dispossessed by the forces of capitalism and centralized bureaucracy. Yet these groups too have conflicts of interest and varying degrees of involvement which are not just created, although they are certainly manipulated, by ruling circles. To be effective a counter-culture must eventually spawn a political programme capable of transcending the present dimensions of politics, and of being made operational — if only in the sense of delegating more power to the local level, and of initiating a sufficient transformation of the economy and technology to make this idea at all feasible.

The means test

Reserved for the Poor: the means test in British social policy
by Alan Dawson and Jonathan Bradshaw
Marlin Robertson, £16.50 and £3.95
ISBN 0 85520 435 4 and 436 2
Changing Social Policy: the case of the supplementary benefits review
by Carol Walker
Bedford Square Press, £4.95
ISBN 0 7199 1107 9

Much of the junk in the social security cupboard consists of means tests. These have been a favourite way of coping piecemeal with the various symptoms of poverty without dealing with the cause, and without spending "too much" money. By the 1970s, it was said, Britain was "a nation of means tests", not only as a basis for income maintenance and housing support, but also for a host of goods and services from a university education to hot water bottles.

Alan Dawson and Jonathan Bradshaw have analysed the development of means tests from the bitterly resisted "transitional payments" of the 1930s to the present day. The reforms of the 1940s were intended drastically to minimize means tests, but were fatally flawed by decisions about the relation between insurance rates and national assistance scales. During the 1950s and 60s, the consensus for universal benefits crumbled in favour of "selectivity". It was in the early years of the Heath administration that a decisive shift towards means tests occurred.

The book goes on to analyse the problems of current means tests, especially low "take-up" and the "poverty trap", before reviewing a variety of alternative proposals. It concludes that a "clean sweep" reform of the tax and benefits structure offers the best long-term hope, but that none of the plans so far suggested looks like being practicable.

The authors of this book have been among the leading contributors to the current orthodox view of means tests, of which this is an excellent presentation, and it is perhaps unfair, therefore, to criticise them for failing to question that orthodoxy. The standard treatment is at its weakest on the poverty trap. We are treated to the poor appearing to plummet against the injustice of low wage earners not suffering the full consequences of their lack of initiative and effort.

However obvious the problems associated with means tests (in the plural), there is a painful question to be faced about exactly who should be considered the prime beneficiaries of the social security system. If it is the poor, then high marginal rates of taxation or withdrawal of benefits are inevitable. If high rates of taxation are avoided, then most of the two thirds of the population with below average incomes might gain, but the poor

Nevertheless, Castells's demonstration of the force and vitality of local community movements in many urban settings will find a sympathetic audience among many people who might hesitate to accept his full diagnosis of the evils of capitalism. Moreover, it is true, as he says, that professional and middle-class groups are increasingly joining with working-class elements in urban politics. In these circumstances, it seems all the more curious and sinister that in Britain particularly (but also elsewhere), national governments are reducing the scope of local government, and in spite of the onslaught on quangos are transferring powers to business-like public boards. At the same time the restructuring of the economy to match the increasingly unstable conditions of international finance and trade heralds further far-reaching changes in urban structure, and new problems of insecurity and deprivation. Thus, those who disagree with Castells's diagnosis will have to explain why a counter-culture which seems increasingly to be desired is also being increasingly frustrated.

Castells ends his book on a note of pragmatic optimism that "notwithstanding the threatening storms of the current historical conflicts, humankind is on the edge of mastering its own future, and therefore of designing its

good city". This conclusion seems to rest upon the euphoria of some of the movements which he describes, rather than upon his own histories and analysis. This book would have been better for being shorter and more closely reasoned, but it is a compensation in the author's empathy with urban movements which have often bravely flown the flag for humanist values against oppressive conditions, and which in a darkening world today may indeed represent some small beacons of light for the future.

Castells's treatment of urbanism is important for the reason that cities throughout history have been the breeding-ground for democratic and social reform, but today are becoming transformed and spread out to a point where urbanism as a way of life is sometimes said to be dying. Castells rather convincingly refutes this hypothesis and shows that, however neutralized and anomic is outer suburbia, the inner areas of all cities and the shanty towns of third world cities remain the growing crisis points of modern societies.

Peter Self

Peter Self is attached to the Urban Research Unit at the Australian National University, Canberra.



A range of "Tide" and "Daz" packets with their precursors, a picture taken from Kenneth Hudson's book *The Archaeology of the Consumer Society* (Helmens Educational, £12.50).

might become (relatively) even worse off than they are now.

As no time have hopes been raised higher for a genuine reconsideration of social security than in 1976, when David Ennals announced the supplementary benefits review as "the most searching analysis of the role of social assistance... since 1948". Carol Walker's obscurely-titled *Changing Social Policy* turns out to be not a general treatise on the welfare state, but strictly for social security buffs — a blow by blow account of false hopes and disappointment from this exercise in open government.

The review was unusual in that although it was carried out by DFSS officials, the report was published and a public response was encouraged. This alone was a development much to be welcomed, especially in view of the present absurd secrecy surrounding every thought in civil servants' minds.

But the report, and the period of debate, were fated to disappoint from the moment the excited rhetoric of its launch promised the review to achieve what it would never attempt. First, people thought that the role of supplementary benefits in relation to other social security benefits would be subject to fundamental reappraisal. This would have meant opening the whole can of worms, and it is now clear that such a huge brief was never even considered. Second, in a stunning example of the hegemony of economic and fiscal management over other policy fields, the Treasury had taken upon itself to censor the DHSS's thoughts before it had even thought them. It forbade the review to take place at all unless the officials proposed not to consider any proposals which could increase the overall budget.

This "nil-cost" restraint had effects beyond the obvious one of preventing an improvement in some or all of the householders' attempts to move to some better policy by its inability to get here: costs which they could not be borne by the government could only and unacceptably be borne by claimants.

As a result, the whole exercise has produced a "reformed" supplementary benefits scheme not very different in scale or method from its predecessor. Carol Walker, in

documented this process thoroughly, and at times fascinatingly. But, while it is true that the "nil-cost" problem pervaded every aspect of the review, it is perhaps a pity that it should also have recurred on just about every page of the critique. Walker's only criterion for much of the analysis has been whether the amount of money available to claimants was increased. Since it was not, no points are awarded. But there were other issues, none of them as important as the level of benefit, of course, but some of them quite important all the same. The review did tackle some of these problems, though it remains to be seen whether it has solved them.

Richard Berthoud

Richard Berthoud is senior research fellow at the Policy Studies Institute.

Rational choices

Racial and Ethnic Competition
by Michael Banton
Cambridge University Press, £25.00
hard £8.95
ISBN 0 521 25463 9 and 27475 3

We are used to books on race and ethnicity by Michael Banton which are both original and important. His latest offering is no exception. It is not original in the empirical sense, although because he draws on examples from numerous countries and historical periods it is an impressive work of synthesis. The volume's real importance, however, is in its use of theory to explain racial and ethnic relations.

Scholars of this subject are frequently accused either of atheoretical research, or of inappropriately applying conventional social theories to racial phenomena. When applied to such contexts as South Africa and Northern Ireland, class-based theories, for example, prove less than adequate. What South African labour market policies are economically irrational and can only serve to weaken South

African capitalism at home and abroad. And class-based explanations of the communal conflict in Northern Ireland almost always seem contrived. Chapter five is devoted to a discussion of those social, psychological and economic theories which have been most frequently invoked to explain racial and ethnic conflict. As, in the satisfaction of opinion, none is entirely convincing, he devotes the rest of the book to an analysis based on yet another theory, rational choice, whose central condition is a world made up of self-interested groups and individuals each intent on the maximization of social and economic benefits and the minimization of costs.

At first sight, Banton's devotion to rational choice analysis is brave indeed, for by so doing he is identifying himself with the public choice school of economists and political scientists, with all that this implies. But he is free to reject such strange bedfellows. In one sense they are not; liberal thinking specifically eschews differences based on race and ethnicity. To the economic liberal, the fewer artificial barriers to the free exchange of goods and services the better. So racism amounts to a distortion of the labour and housing markets and leads to sub-optimality. Reducing or removing discrimination is, therefore, equivalent to removing restrictive practices and monopoly. Only when members of subordinate groups are treated as individual social and economic actors each with complex and distinctive preferences, will discrimination in jobs, housing and education be eradicated.

It logically follows that competition between groups, rather than individuals, will strengthen racial and ethnic boundaries, and much of Banton's book is devoted to demonstrating and developing this theme. As with monopolists in the economic market place, dominant groups have a clear interest in remaining dominant but they achieve this through exploiting their racial and ethnic exclusivity, rather than by manipulating prices or restricting consumer choice.

Does this novel adaptation of rational choice and exchange theory work? In many respects it does. It enables the author to explain boundary maintenance between groups in South Africa, as well as the much more fluid and adaptive boundaries which characterize group relations in the United States. Because it is not historical or cultural specific, the theory has great strength. When, for example, Banton compares it with more conventional approaches to discrimination in housing in Britain and America, it appears to work very well. It can, above all, help to explain how individuals' preferences for different housing types interacts with discrimination to produce particular patterns of residential settlement.

What of the problems? Two major difficulties stand out. First because the approach is eclectic and inclusive, Banton is able to make only very general claims to support the theory. Careful empirical research, preferably comparative across countries and historical periods, is needed before the true utility of the rational choice framework can be judged.

Second, and more seriously, the approach can be used to justify inequalities between individuals in a way that is almost irresistible. If civil rights are effectively enforced, then this should reflect indifference to group or class successes and failures. Yet we all know that the problems of subordinate racial and ethnic groups cannot be expressed or solved solely in individual terms. Banton recognizes this by accepting that "racial discrimination is threaded into the broader fabric of social inequality (and) the analyses indicate that active and against discrimination will be more effective if it is part of a general policy for regulating social inequalities should guide a general policy for these actively encourage inequality. Banton does not confront the obvious alternatives — class-based theories of social reform.

The problem remains. How can we formulate a mix of public policies which are both sensitive to the needs and preferences of individual members of racial and ethnic groups, and which can be coherently related to a broader programme of social and economic reform?

David McKay

David McKay is senior lecturer in government at the University of Essex.

BOOKS
Saintly statistics

Saints and Society: the two worlds of western Christendom, 1000-1700
by Donald Weinstein and Rudolph M. Bell
University of Chicago Press, £20.00
ISBN 0 226 89055 4

Say "computer" to a historian and he will probably start talking about census returns. Certainly it is a safe bet that his mind will not turn at once to prayer or miracle working.

Saints and Society is based on an exhaustive and (so far as I can judge) sophisticated statistical analysis of the surviving materials for the lives of 864 saints who died between 1000 and 1700, and is, for that reason alone, a remarkable and original book. It is also well written and very readable: the statistical tables require concentration, but are not beyond the grasp of the innumerate (there is a comprehensive appendix on method); and the authors consistently deploy a refined understanding of the nature and limitations of their often dubious sources, and a catholic command of the secondary literature.

For those who struggle, with Ranke, to see "the past as it actually was" saints' lives have little to offer. Even when they are contemporaneous they seldom amount to more than a salad of literary stereotype, conventional piety and the legend which is, almost by definition, inseparable from the saint both in life and in death.

But the qualities which make the saints' lives poor records of fact also make them a clear mirror of perception. It is this that Weinstein and Bell exploit, making a distinctive contribution to the long process of bringing these most voluminous and refractory of sources into systematic use simply by subjecting so much of them to a common examination. They offer a portrait not of what was, but of what was believed or expected or aspired to in those centuries, about the stages of human life (childhood, adolescence, maturity) in the first half of the book, and about society itself, in relation to place, class and men and women in the second.

It is an ambitious programme, and the result is sometimes disappointing, and sometimes banal. Some of the skilful but necessarily breathless outlining of the general historical background, for instance, might have been sacrificed to make it possible not only to say, less than surprisingly, that chastity mattered, but to probe its contexts rather more subtly to find out why. Nevertheless much of the detail, especially on the routines of everyday life and the conflicts of urban communities, is fascinating, and some of the conclusions are important.

Medievalists will find that the replacement in the thirteenth century of the saint of noble birth and office in church or state, curser of kings and manipulator of power, by humbler

figures of much more diverse social origin, which is much the greatest change in the pattern of sainthood in the whole period, illustrates and refines much that they have discussed in recent years. They may be less surprised by what others, like the authors, will see as the major assertion that, pace Ariès, Simon and others, the "affective family" was by no means an invention of the eighteenth century. It is cogently demonstrated here that Europeans of the high middle ages had clear perceptions of both childhood and adolescence as distinct phases of personal development with their own qualities, character and problems, and that family love was both valued and assumed.

That is one example of the advantages which come with the long chronological perspective adopted here. Most of the book's weaknesses, such as the inconclusiveness of the interesting discussion of why this perception should have faded away in the sixteenth century, to be replaced by much harsher attitudes towards women and children, also reflect the breadth and complexity of the task which Weinstein and Bell set themselves. Their success may be incomplete, but it is of considerable significance.

R. I. Moore

Dr Moore teaches history at the University of Sheffield.

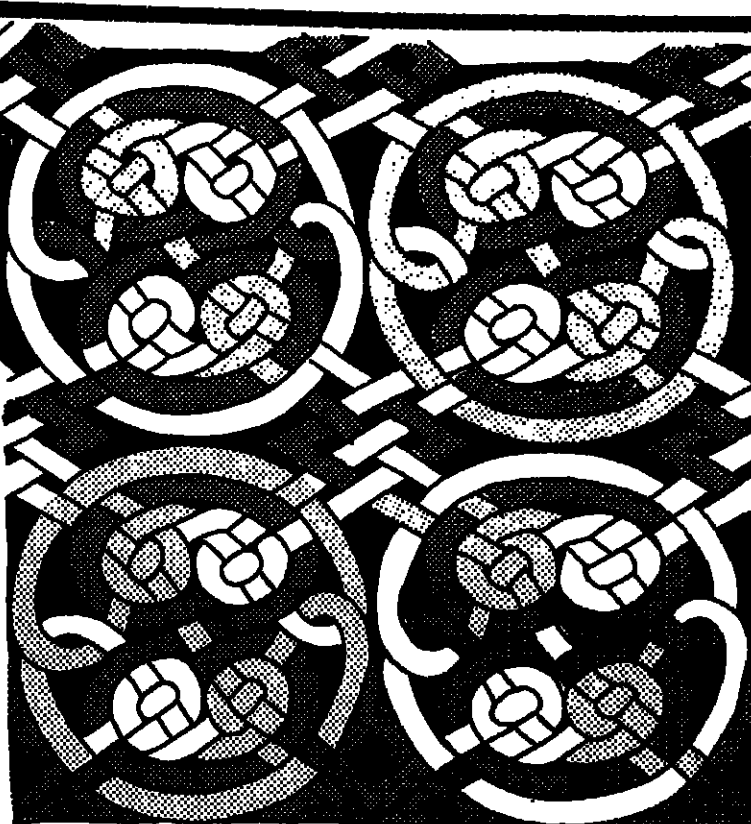
Primary sources

Alfred the Great: Asser's Life of King Alfred and other contemporary sources translated and with an introduction and notes by Simon Keynes and Michael Lapidge
Penguin, £2.95
ISBN 0 14 044409 2

Some of the greatest rewards of studying medieval history stem from contact with original sources — to read what for the notes and bibliography provide a very useful guide to recent scholarship on a wide range of aspects of Alfred's reign. As a bonus, the book offers an excellent series of maps (one of which very interestingly plots the distribution of lands referred to in Alfred's will) and two appendices dealing respectively with the story of King Alfred and the cakes and with the Alfred Jewel which forms the cover illustration. In short, this volume makes a real contribution to the accessibility of historical scholarship and is free from any tendency to peddle simplified, secondhand history.

There is, however, a danger in the very comprehensiveness of its treatment. It would be as if readers were to conclude from it that Alfred and his age are now well understood. For, close as we can get to Alfred and his thought, there remain matters of fundamental importance which we have still to understand more fully: the origins of Alfred's belief in cultural and religious revival, for example, and the possible links between his outlook and that of his continental contemporaries.

All these texts are translated into



"Ribbon Interlace" from the Book of Durrow, from Eva Wilson's *Early Medieval Designs* (British Museum Publications, £4.95).

clear and elegant English and they show better than any secondary description how surprisingly close we can get to the world of this ninth-century warrior-king and man of letters.

The translators, who are both noted specialists in the study of Anglo-Saxon England, have offered the reader a lucid introduction setting out the chronology and main developments of Alfred's reign and they have equipped their translations with truly monumental explanatory notes and commentary on the texts. This will make it possible for anyone with access to a large library to pursue further studies. Indeed it is this which will make this book an essential purchase for professionals as well as amateurs, for the notes and bibliography provide a very useful guide to recent scholarship on a wide range of aspects of Alfred's reign. As a bonus, the book offers an excellent series of maps (one of which very interestingly plots the distribution of lands referred to in Alfred's will) and two appendices dealing respectively with the story of King Alfred and the cakes and with the Alfred Jewel which forms the cover illustration. In short, this volume makes a real contribution to the accessibility of historical scholarship and is free from any tendency to peddle simplified, secondhand history.

There is, however, a danger in the very comprehensiveness of its treatment. It would be as if readers were to conclude from it that Alfred and his age are now well understood. For, close as we can get to Alfred and his thought, there remain matters of fundamental importance which we have still to understand more fully: the origins of Alfred's belief in cultural and religious revival, for example, and the possible links between his outlook and that of his continental contemporaries.

aries, the Carolingians. There is more to learn about the society over which he ruled and the economic basis underlying it — fields in which broader studies, certainly including archaeology, have much to contribute. The reader should therefore see in *Alfred the Great* in effect a point of departure for exploring a remarkable and enigmatic period of history which deserves to be much better known.

D. W. Rollason

Dr Rollason is lecturer in history at the University of Durham.

Medieval customs

Allen Merchants in England in the High Middle Ages
by T. H. Lloyd
Harvester Press, £18.95
ISBN 0 312 01856 8

The *Carta Mercatoria* of 1303 introduced into England a relatively complicated system of customs duty. By it the privileges of alien merchants were guaranteed by the king in exchange for their paying customs, which varied according to the nature of the merchandise, and whether the goods were being imported, exported or re-exported.

Naturally a record of account was carefully compiled of this royal revenue, and some of the documents for the period when the tax was imposed are in the Public Records Office, London. These documents comprise

particulars of account, which for tax purposes showed the quantities, value and ownership of merchandise imported or exported by way of an individual port over a limited period — these were returns submitted to the exchequer, securely, the enrolled account provided the consolidated information compiled by the exchequer clerks from the returns.

Over the first three decades of the fourteenth century, however, governmental policy was not consistent, and between 1311 and 1322 the tax regulations concerning alien merchants were not enforced. Unfortunately now only a few documents of the particular account exist, and even the enrolled account is not complete for the early period when the tax operated. Hence while the nature of the material has been known to scholars in the field at least since Gras's *Early English Customs System* of some sixty years ago, it has been generally held that the records did not provide the basis for a reliable picture of trade in the early fourteenth century.

Mr T. H. Lloyd, familiar with the customs records in consequence of his researches on the English wool trade in the middle ages, believes that their neglect for the period 1303 to 1336 is unjustified, as they throw light on the part played in English trade by alien merchants. In this book he makes it clear that he is fully aware of the difficulties and dangers inherent in the interpretation of the documents but he also displays an impeccable method of exposition.

Drawing on the customs' records Mr Lloyd furnishes eleven statistical tables. Here are indicated under each English port the weight, value and categories of goods imported and exported by aliens for every year, or portion of a year; there are gaps, of course, where there is no evidence. This information in its turn forms the basis of the author's consideration of the historical and economic context, and there the local economy is neatly dovetailed with the national circumstances. For London Mr Lloyd also draws upon documents relating to the alien assessments for tallage of 1304 and 1322. He goes on to examine four geographical regions of the continent from whence the goods imported by aliens originated and whither English merchandise was taken by them. In this regard it is noted that there is no consideration of the archival evidence of the continental ports, if any such material does indeed exist.

The study is the first detailed analysis of the part played by non-resident merchants in English trade in the early fourteenth century. It is judiciously argued and appears to be as far as one can go without further evidence.

The work has an interest and significance broader than might be supposed; for instance, it has suggestive conclusions concerning the contribution made by Italian merchants as bankers in England which are in stark contrast to Professor Michael Postan's dismissive view. The volume is to be commended to all scholars interested in early fourteenth-century English and European history.

Cecil H. Clough

Dr Clough is reader in medieval history at the University of Liverpool.

BOOKS DISTRIBUTED BY
MULTILINGUAL MATTERS LTD

Edited by Raymond V. Padilla

Vol I Bilingual Education and Public Policy in the United States
514 pages 1978 £8.90

Vol II Theory in Bilingual Education
440 pages 1980 £8.90

Vol III Bilingual Education Technology
497 pages 1981 £8.90

Edited by Gary D. Keller et al.
Bilingualism in the Bilingual and the Beyond
241 pages 1978 Hbk £13.50 Pbk £7.95

Edited by Mark Gerner
Community Languages
210 pages 1981 £8.90

By Michael G. Clyne
Multilingual Australia
188 pages 1982 £8.90

MULTILINGUAL MATTERS LTD
Bank House, 8A Hill Rd.
Newland, Avon BS21 7HH,
England.

Pauline Stafford

Pauline Stafford is senior lecturer in history at Rutherford Polytechnic.

BOOKS

Limits and borders

King Lear, Macbeth, Indefinition, and Tragedy
by Stephen Booth
Yale University Press, £15.00
ISBN 0 300 02850 4

Stephen Booth tells us in his preface to this book that his wife strongly advised him to change its title, which seemed to her confusing and potentially misleading. It is not a neat title (and is also admitted in the self-consciously disarming preface) it is not a neat book, consisting as it does of a long essay on *King Lear*, a somewhat shorter one on *Macbeth*, an "interlude" chapter on *Love's Labour's Lost* (one of the most interesting recent essays on that play) and two appendices, one on "The Persistence of First Impressions (on plays)" and one on "Speculations on Doubling". All this material is given coherence by an over-riding concern with "indefiniteness" of various kinds: the failure to define and the fragile or arbitrary nature of limits and borders, inconclusiveness, inconsequentiality, incompleteness and problematic endings, and so on.

The essay on *Lear* comes first and is the most substantial. There is some excellent detailed analysis, especially of the last scene, and Booth is always at pains to avoid reduction, emphasizing that the many types of patterning and repetition in the play do not add up to reassuringly coherent meanings or morals but remain disturbing and inconclusive. Rejecting the popular tendency to take "Ripeness is all" as a one-line kernel of the play, he suggests instead Gloucester's reply "And that's true too". Which is not to say that "anything goes" in the interpretation of literary texts but rather to pinpoint specific and significant overlapping discontinuities and shifts of focus. Booth is particularly acute on moments when characters do not quite say what we think they ought to mean.

As the plot of *Lear* shows us with its excessively harrowing ending, so the plot of *Love's Labour's Lost* can be said on a more frivolous level to surprise us at least with its refusal of the normal comic ending. Booth demonstrates that even at this early stage in his career Shakespeare was interested in "indefiniteness" and the inconsequential. Taking some passages which many readers and players have found tedious or merely baffling, he moves through a lively discussion of the play's concern with numbers and with the word "goose" on his way to suggesting that (obscenities and all) the whole play could be described as a sustained pun on the word *end*.

The following essay on *Macbeth* returns to the attempt to explore our assumptions about tragedy and uses Aristotle as a sort of catalyst. Booth does not so much attack Aristotle as attempt to explain our obsession with him in terms of our reluctance to face the real issues.

The complexity, the logical disjunction, and, above all, the vagueness

of Aristotle's theory of tragedy make it the only one sure to provide busywork for the mind sufficient to forestall the always threatening occasion for moving on to the tragic actualities of reading or seeing a dramatic tragedy.

The argument advanced here is that the significant part of tragedy is not to do with the plot or the experience of the characters but rather with the experience of the audience in confronting what is nameless, indefinite and incomprehensible. This essay is more uneven since, despite its promising materials, it dwells for too long on familiar ground (the theme of equivocation, the problems of the scene set in the English court) and does not have the excitement and independence of

A natural tory

Swift's Tory Politics
by F. P. Lock
Duckworth, £18.00
ISBN 0 7156 1755 9

In the wider world, a Whig version of history may still rule. But in the academic study of early modern Britain, they have changed all that, and a Tory revisionism has led to a full-scale *renversement des alliances*.

A critical text here was J. P. Kenyon's *Revolution Principles* (1977) which saw the establishment of the Hanoverian regime as owing "nothing" to Whig principles and less to Whig propaganda. Kenyon described "highly on the defensive", brought to power by a series of chance events, and even then riven by internal dissent, lastingly a prey to "neurosis about the Revolution", uncertain about its own credentials for the hegemony it had achieved. At the same time, one can see in the work of a very different historian, E. P. Thompson, the glimmerings of an idea that Jacobitism was a populist cause, supported by the dispossessed in a corrupt oligarchy where "the allegiance of such men as Walpole... to the rhetoric of law was largely humbug" (*Whigs and Hunters*, 1975).

F. P. Lock has already given us a revisionist account of *The Politics of Gulliver's Travels* (1980), and his new book is equally challenging and intellectually bracing. He, too, sees a shift in ideological loyalties after 1714, whereby the abhorrence of arbitrary power, traditionally a Whig cry, "became naturally a Tory theme." There is a lot of "natural" around in Dr Lock's argument, and his final chapter, on "Swift's political values", suffers at times from this imputed clarity of cause and effect. "Swift was a natural Tory," we are told; he was "by temperament a conservative"; linking the notions, "always a natural Tory, he was by temperament authoritarian."

Sunderland was, "like Swift, a temperamental extremist". In the final passage of the book, "By temperament and conviction, an accident of history made him a patron and champion of liberty." The fundamental sense of Swift's character seems to me just, and certainly far more true to the reality than the apostle of compromise de-

scribed by critics like Kathleen Williams. Nevertheless, one would like more demonstration and less assertion. When Dr Lock declares that the term "old whig" meant in 1700 "almost neo-Tory", again one senses a degree of facility in the course of argument which prompts this convenient elision.

Ann Thompson

Ann Thompson is senior lecturer in English at the University of Liverpool.

Swift's Tory Politics by F. P. Lock. Duckworth, £18.00. ISBN 0 7156 1755 9. In the wider world, a Whig version of history may still rule. But in the academic study of early modern Britain, they have changed all that, and a Tory revisionism has led to a full-scale *renversement des alliances*. A critical text here was J. P. Kenyon's *Revolution Principles* (1977) which saw the establishment of the Hanoverian regime as owing "nothing" to Whig principles and less to Whig propaganda. Kenyon described "highly on the defensive", brought to power by a series of chance events, and even then riven by internal dissent, lastingly a prey to "neurosis about the Revolution", uncertain about its own credentials for the hegemony it had achieved. At the same time, one can see in the work of a very different historian, E. P. Thompson, the glimmerings of an idea that Jacobitism was a populist cause, supported by the dispossessed in a corrupt oligarchy where "the allegiance of such men as Walpole... to the rhetoric of law was largely humbug" (*Whigs and Hunters*, 1975).

F. P. Lock has already given us a revisionist account of *The Politics of Gulliver's Travels* (1980), and his new book is equally challenging and intellectually bracing. He, too, sees a shift in ideological loyalties after 1714, whereby the abhorrence of arbitrary power, traditionally a Whig cry, "became naturally a Tory theme." There is a lot of "natural" around in Dr Lock's argument, and his final chapter, on "Swift's political values", suffers at times from this imputed clarity of cause and effect. "Swift was a natural Tory," we are told; he was "by temperament a conservative"; linking the notions, "always a natural Tory, he was by temperament authoritarian."

Sunderland was, "like Swift, a temperamental extremist". In the final passage of the book, "By temperament and conviction, an accident of history made him a patron and champion of liberty." The fundamental sense of Swift's character seems to me just, and certainly far more true to the reality than the apostle of compromise de-

scribed by critics like Kathleen Williams. Nevertheless, one would like more demonstration and less assertion. When Dr Lock declares that the term "old whig" meant in 1700 "almost neo-Tory", again one senses a degree of facility in the course of argument which prompts this convenient elision.

Ann Thompson

Ann Thompson is senior lecturer in English at the University of Liverpool.



Horace Walpole in the library at Strawberry Hill, by J. H. Müntz, taken from Brian Fothergill's *The Strawberry Hill Set: Horace Walpole and his circle* (Faber, £12.95).

Speaking terms

Discourse Analysis: the sociolinguistic analysis of natural language
by Michael Stubbs
Blackwell, £19.50 and £8.50
ISBN 0 631 10381 3 and 12763 1

Discourse analysis is a fuzzy area that has been studied within a variety of academic disciplines and that has, as yet, no consistent theoretical framework. Surprisingly, however, it has been relatively neglected by linguists; since it could not be analysed within the confines of a purely linguistic framework, it was considered to be outside their domain, as semantics once was. But just as it was absurd to omit from a model of language the fact that language has meaning, so it is absurd to omit the central characteristic of language - that it is a system of communication.

Michael Stubbs's book is, therefore, a welcome introduction to the study of discourse, for it starts from perspective that is predominantly linguistic. And since almost all the illustrative material is drawn from informal, spontaneous conversations, recorded in real-life contexts, the book makes an important contribution to the analysis of natural language at the same time as it outlines some of the key ideas in discourse analysis.

As a sociolinguist, Stubbs insists that the ultimate aim of linguistics must be the analysis of real language, rather than of idealized sentences that are figments of linguists' over-theoretical imaginations; and his book presents pertinent criticisms of the data-based on which modern linguistics is founded and of many of the assumptions that linguists tend to take for granted.

One reason, of course, why linguists have preferred to analyse language from the comfort of their armchairs is that it is notoriously difficult to collect adequate samples of natural conversation. The final chapter of this book makes it quite clear that such an enterprise is possible, and gives useful practical advice on collecting data. It also provides a much-needed survey of some of the more theoretical implications of sociolinguistic research.

The main part of the book discusses the analytic techniques that are needed for the study of discourse, and the type kind of descriptive model that is required. Stubbs outlines three separate yet complementary approaches to the analysis of discourse, demonstrating the different insights that each approach can give. The first is a detailed study of transcribed conversation, which is used to show how speakers negotiate mutual understanding and how conversation is par-

tered. The second is based on ethnographic observation, in this case in classrooms, and is used to illustrate the functions served by different utterances. The third is a more conventional linguistic approach, showing how some adverbs, co-ordinating conjunctions and particles in English can only be explained by considering stretches of discourse longer than the sentence or clause.

There is already one biography of Turing, written by his mother and unavoidably slighter than this. Hodges is far better placed than Mrs Turing to do a research mathematician; he has access to recent accounts of Turing's enormous achievements at Bletchley Park; and, as a member of the London Gay Liberation Front, he is willing and able to trace something of Turing's life as a homosexual.

Hodges shows him growing from a sunny outgoing boy into a withdrawn and awkward adolescent. Determined as he was to reach his own conclusions and follow his own interests, he was often at odds with the world. He was imaginative, original, inquisitive, sceptical and eccentric: a delight to his friends, but to some people impossible. From boyhood he enjoyed physics, mathematics, theoretical physics, and astronomy; and he approached things with a "desert island" preference for doing things for himself from scratch: chemicals had to be boiled out of seaweed and plants; for a stellar globe that he started, he used only his own observations; and much of his mathematical work had the same rugged features. He had a searching curiosity that ranged over the sciences and philosophy as well as mathematics; and the work for which he will be remembered hovered unfashionably between theory and practice. He could unquestionably have been a distinguished pure mathematician - he wrote a number of papers confirming this - but his tastes and his powers were better suited to the border country.

It was in 1935, the year of his election (at 23) to a fellowship at King's College, Cambridge, that Turing had his first outstanding success. He had shown that any useful finite automatic system contained propositions that could neither be proved true nor proved false; but the question remained whether even so there might be some algorithm, some mechanical method, which could determine whether a proposition would be proved or not. Turing resolved the question by proving that there can be no such algorithm - and had the sad experience of finding that Alonzo Church had narrowly beaten him to it. But, regardless of priorities, to most people Turing's methods were more important than the result.

The analysis of Turing's methods, considering the mechanical nature of an infinite sequence of steps and cases, which can be interpreted as the binary representation of a real number; and he showed that any such algorithm could be carried out by a particular sort of machine. Such a machine, now called a Turing machine, can read and write symbols in compartments on a tape of unlimited length; and it has a finite number of possible configurations, like the upper and lower case configurations of a typewriter. Its present configuration together with the symbol that it reads in the present compartment determine three actions: whether or not to change the symbol; whether to move one compartment to the left or one to the right. The numbers that Turing machines can generate were called computable numbers; and, perhaps surprisingly for machines with such modest repertoires, all the numbers that arise naturally turn out to be computable.

Now a Turing machine is entirely defined by the table of instructions that orders, for each configuration and each symbol read, the three actions to be taken; and each such table can be coded by an integer. There can therefore be a Universal Turing machine that can compute any of the computable numbers; when the code-integer is fed in, it can decode it into a table of instructions, and can then carry them out. There is no difficulty about deciding whether a given integer is the code for some table of instructions; but not every table of instructions produces an endless sequence of symbols; it might define a "unsatisfactory" machine that just patters about. Turing was able to prove that there can be no mechanical process for deciding whether a table of instructions is or is not "satisfactory", and he thereby settled the problem. Quite as important as the result was the concept of a universal machine that can carry out any required automatic computation when given the appropriate input. It is a concept that will be quickly recognized by anyone familiar with general purpose computers.

War-time experience of electronics, here and in the United States, showed in 1945 that something like a Universal Turing machine would be both practicable and useful. A number of projects for building a general purpose computer were started in the United States and three in Britain - at the National Physical Laboratory, at Manchester University and at Cambridge University. The NPL enlisted Turing to design its computer, known as the Automatic Computing Engine (ACE). He had then to translate his own purely theoretical ideas into an actual machine, describing its type of store (the decided on delay-lines, as did Maurice Wilkes at Cambridge), the functions to be carried out electronically and the style of instructions. His design called for comparatively little specialized hardware and placed a correspondingly greater burden on the writers of programs. During the war Turing had had considerable experience of designing machines and of collaborating with engineers to get them built; at NPL, however, there was little liaison between him and the engineers, and, after the initial designing, his job was mainly confined to writing the programs that ACE would need. Since the programs depended inextricably on the engineering details, and since engineering difficulties caused changes in plans (for instance, about the type of store) it was a frustrating period for Turing, and probably all concerned were glad when, in 1948, he left NPL to join the computer laboratory at Manchester.

At Manchester they had a computer,

BOOKS

COMPUTER SCIENCE

There's glory for you

Alan Turing: the enigma
by Andrew Hodges
Burnett Books, £18.00
ISBN 0 09 152130 0

Alan Turing did at least three remarkable things. As a young man he solved a famous and formidable problem in mathematical logic; during World War II he was a giant in the talented team that broke Germany's main cipher system; and after the war he was the designer of one of Britain's first general purpose computers.

Andrew Hodges has written a wide-ranging book about this unusual man, using not only available documents but also the recollections of Turing's many friends and colleagues. He has produced a story of the man, of his work and the interaction between him, his colleagues and his times. Since for Turing interaction with people, particularly with people in authority, was difficult and sometimes bruising, readers may remember more about his disappointments than his triumphs. The triumphs, however, are there to be admired.

There is already one biography of Turing, written by his mother and unavoidably slighter than this. Hodges is far better placed than Mrs Turing to do a research mathematician; he has access to recent accounts of Turing's enormous achievements at Bletchley Park; and, as a member of the London Gay Liberation Front, he is willing and able to trace something of Turing's life as a homosexual.

Hodges shows him growing from a sunny outgoing boy into a withdrawn and awkward adolescent. Determined as he was to reach his own conclusions and follow his own interests, he was often at odds with the world. He was imaginative, original, inquisitive, sceptical and eccentric: a delight to his friends, but to some people impossible. From boyhood he enjoyed physics, mathematics, theoretical physics, and astronomy; and he approached things with a "desert island" preference for doing things for himself from scratch: chemicals had to be boiled out of seaweed and plants; for a stellar globe that he started, he used only his own observations; and much of his mathematical work had the same rugged features. He had a searching curiosity that ranged over the sciences and philosophy as well as mathematics; and the work for which he will be remembered hovered unfashionably between theory and practice. He could unquestionably have been a distinguished pure mathematician - he wrote a number of papers confirming this - but his tastes and his powers were better suited to the border country.

It was in 1935, the year of his election (at 23) to a fellowship at King's College, Cambridge, that Turing had his first outstanding success. He had shown that any useful finite automatic system contained propositions that could neither be proved true nor proved false; but the question remained whether even so there might be some algorithm, some mechanical method, which could determine whether a proposition would be proved or not. Turing resolved the question by proving that there can be no such algorithm - and had the sad experience of finding that Alonzo Church had narrowly beaten him to it. But, regardless of priorities, to most people Turing's methods were more important than the result.

The analysis of Turing's methods, considering the mechanical nature of an infinite sequence of steps and cases, which can be interpreted as the binary representation of a real number; and he showed that any such algorithm could be carried out by a particular sort of machine. Such a machine, now called a Turing machine, can read and write symbols in compartments on a tape of unlimited length; and it has a finite number of possible configurations, like the upper and lower case configurations of a typewriter. Its present configuration together with the symbol that it reads in the present compartment determine three actions: whether or not to change the symbol; whether to move one compartment to the left or one to the right. The numbers that Turing machines can generate were called computable numbers; and, perhaps surprisingly for machines with such modest repertoires, all the numbers that arise naturally turn out to be computable.

Now a Turing machine is entirely defined by the table of instructions that orders, for each configuration and each symbol read, the three actions to be taken; and each such table can be coded by an integer. There can therefore be a Universal Turing machine that can compute any of the computable numbers; when the code-integer is fed in, it can decode it into a table of instructions, and can then carry them out. There is no difficulty about deciding whether a given integer is the code for some table of instructions; but not every table of instructions produces an endless sequence of symbols; it might define a "unsatisfactory" machine that just patters about. Turing was able to prove that there can be no mechanical process for deciding whether a table of instructions is or is not "satisfactory", and he thereby settled the problem. Quite as important as the result was the concept of a universal machine that can carry out any required automatic computation when given the appropriate input. It is a concept that will be quickly recognized by anyone familiar with general purpose computers.

War-time experience of electronics, here and in the United States, showed in 1945 that something like a Universal Turing machine would be both practicable and useful. A number of projects for building a general purpose computer were started in the United States and three in Britain - at the National Physical Laboratory, at Manchester University and at Cambridge University. The NPL enlisted Turing to design its computer, known as the Automatic Computing Engine (ACE). He had then to translate his own purely theoretical ideas into an actual machine, describing its type of store (the decided on delay-lines, as did Maurice Wilkes at Cambridge), the functions to be carried out electronically and the style of instructions. His design called for comparatively little specialized hardware and placed a correspondingly greater burden on the writers of programs. During the war Turing had had considerable experience of designing machines and of collaborating with engineers to get them built; at NPL, however, there was little liaison between him and the engineers, and, after the initial designing, his job was mainly confined to writing the programs that ACE would need. Since the programs depended inextricably on the engineering details, and since engineering difficulties caused changes in plans (for instance, about the type of store) it was a frustrating period for Turing, and probably all concerned were glad when, in 1948, he left NPL to join the computer laboratory at Manchester.

At Manchester they had a computer,



Alan Turing in 1951.

working, and Turing had not been involved in its design. His job was to organize the programs and the use of the machine. Fortunately that left him plenty of time for research, and he had long been interested by the way in which Fibonacci numbers appear in the configuration of pine-cones and other natural objects. He had also wondered how an embryo, which in its early stages forms an almost spherical, symmetrical mass of cells can develop, for instance, an axis for gas-travel, or an other feature that breaks the spherical symmetry - how symmetry can give rise to asymmetry. Hodges describes Turing's model of an embryo in some soup of chemicals; initially there is chemical homogeneity in stable equilibrium, but some change, perhaps of temperature, causes the equilibrium to become unstable. At that stage any random event may trigger events that lead to a patterned concentration of the chemicals round the embryo, just as a random event starts up an electrical oscillator. In each case the details of the event will have some effect (on the position of the pattern on the embryo or the phase of the oscillation) but the pattern itself and the frequency of the oscillation will be determined. By making drastic simplifying assumptions Turing could construct a model and play it on the computer. He managed to find parameters that indeed gave rise to patterns of concentration, and believed that he had the key to explaining gastrulation, polygonal symmetry (as in the starfish), leaf arrangements with the Fibonacci numbers, and other

things. Unfortunately he died before he could establish his model as more than a plausible mathematical suggestion. The book also describes Turing's wartime work in cryptology at Bletchley Park and Hanslope. His first and most dramatic work was on the German Enigma cipher machine. Nothing significant would have been achieved against it without machines called Bombs, for the design of which he and Gordon Welchman were mainly responsible. Hodges gives a full account of the background, and of the many steps by which a Polish machine (of limited scope against Germany's wartime version of the Enigma) was developed into a powerful engine. One of Turing's most important and fascinating contributions flowed from the logician's theorem that any false proposition implies any other proposition. Hodges also gives some description of Turing's applications of Bayes' theorem and sequential analysis, which enabled the analysts to make economical use of the Bombs. War conditions made cooperation easier to achieve than he found later on, and Turing was able to build up and run a fallacious organization, without the falling foul of the administrators or the engineers. He was eventually moved from this work when it no longer called for his special talents, and was used as a general consultant and for liaison with the Americans; mid towards the end of the war he was designing a speech secrecy machine at Hanslope. For this he seems to have had no direction and little support; but with help from one or two colleagues he built a reasonably compact pilot model, which, while it never saw official interest, his work, however, on Enigma was of crucial importance in the War; and perhaps no one else could have done it. At Bletchley Park, where he was the object of amused veneration, he probably enjoyed the most satisfying period of his life.

Hodges, throughout the book, tells us about Turing's private life. He describes a rather one-sided romantic friendship with a school-fellow who died at school, and the generous way in which the boy's family shared their bereavement with him. We read of his development after school into an overt homosexual, and of his eventual arrest in 1952 on charges of indecency. He never regarded homosexuality as something to be ashamed of; and at his trial, although he admitted the charges, it was only with difficulty that he could be persuaded to plead guilty; Max Newman (professor of pure mathematics at Manchester) and Hugh Alexander (a wartime colleague) spoke of his value to the community and he was put on probation for a year.

Shaun Wylie

Shaun Wylie is an honorary fellow of Trinity Hall, Cambridge. He worked closely with Turing on the Naval Enigma project at Bletchley Park in 1941-1943.

Newman saw to it that his readership at the university was continued, and the Newman and many other friends supported him. Things seemed to have returned to normal when, in 1954, he poisoned himself; although Mrs Turing regarded his death as accidental, it seems almost certain that it was suicide.

The last chapter of the book covers the trial and his last two years, and, of course, examines the question why he killed himself. Hodges points out that at that time the security services were becoming particularly sensitive to the supposed danger of homosexuals having access to secret information. Turing had a lot of information that was still secret and he was a homosexual. Although the evidence is entirely circumstantial, the thought is implanted in the reader's mind that Turing may have been, as someone put it, "hounded to his death" by the security services.

Hodges is concerned to find patterns in Turing's life and perhaps on occasions imposes a pattern that does not quite fit. He pursues themes from children's literature, including *Alice Through the Looking Glass* and *The Wizard of Oz*. Oz represents the United States, the Wizard of Oz is John von Neumann and Dorothy is Turing - which suggests a greater involvement of Turing with von Neumann than there was. The Looking Glass World stands, I think, both for the world as seen by a homosexual and for the irrational world we all know; Alice, the pawn, is Turing, the Red Queen is Russia, and so on. For my taste, this modern mythology is overdone: a hint of it might have sounded stimulating overtones, but there is too much of it for me.

There are gratifyingly many quotations from Turing, his published statements all make good reading, but it is his private unprepared remarks that particularly delight. He had a great knack of elucidating things by analogy, and of bringing a conversation suddenly to life with his own brand of explosive humour. Those of us who knew him will relish being reminded of him, and those who did not will enjoy this portrait of a complex and exceptionally gifted man. The book has a great deal to offer: clear technical descriptions set against their backgrounds; the story of a man largely at odds with the system he lived in; and the puzzle of Alan Turing himself.

Shaun Wylie

Shaun Wylie is an honorary fellow of Trinity Hall, Cambridge. He worked closely with Turing on the Naval Enigma project at Bletchley Park in 1941-1943.

COMPUTING FROM CAMBRIDGE

The Ada Companion Series

There is currently no better candidate for a coordinated, low-risk and synergistic approach to software development than the Ada programming language. This definitive new series aims to be the guide to the emerging industry for managers, implementors, software producers and users. Volumes on style and portability, language conversion, and Ada and multiprocessor systems are in preparation. The first volume to appear provides an appropriate life cycle model.

Life Cycle Support in the Ada Environment

J. A. McDERMID and K. RIPKEN
on behalf of the Commission of the European Communities
This final report of the study of Integrated Ada Programming Support Environments conducted by SDL and TECSI Software in 1982 forms an essential introduction. Broad in scope and convincing in its detail, the report presents a detailed life-cycle model, discusses a management philosophy compatible with that model, and gives an experimental assessment of individual methods (notably CORE and A-7).
Publication 12 January 1984 £12.50 net

Portability and Style in Ada

J. NISSEN and P. WALLIS
on behalf of the Commission of the European Communities
Publication February 1984 About £12.50 net

Also from Cambridge:

Pascal Programming

A Beginner's Guide to Computers and Programming
CHRIS HAWKESLEY
This lively introduction to programming using the Pascal language is equally suitable for self-tuition or as a course text. The emphasis throughout is on the practical use of the most important programming concepts.
Hard covers £12.50 net
Paperback £4.95 net

An Introduction to APL

S. POMMER
Translated by BRONWEN REES
APL is distinguished by its concision and the power of its functions. This introduction represents the cumulative experience of a team of experts and is written for all who wish to familiarise themselves with this simple but extremely versatile language.
Hard covers £16.00 net
Paperback £8.50 net

Fundamentals in Computer Vision

Edited by O. D. FAUGERAS
Papers by fifteen acknowledged experts which examine the theoretical concepts underpinning Computer Vision. Introduce the necessary analytical tools for Vision System design and address practical implementation issues related to hardware and software.
£20.00 net
CREST Advanced Courses

CAMBRIDGE UNIVERSITY PRESS

Taken from life

Characters of Joyce
by David G. Wright
Gill & Macmillan, £13.00
ISBN 0 389 20424 2

"Characters in fiction walk off the page to meet us," says David Wright at the start of his book. "He goes on to illuminate the reality of Joyce's fictional characters by examining biographical differences between them and Joyce, although he also pays some attention to the contributions of other members of his family."

It is taken for granted that there is general agreement as to what is meant by "character" - a rash assumption when dealing with a writer who, even as a youth, declared that a portrait in a work of literature should not be a document of identity but "the wave of an emotion". Wright simply treats the work as a fiction, and records as he effects a portrait of a "biographical" Joyce.

Nevertheless, in the case of Joyce, exposure of such similarities and differences can prove significant, as R. M. Adams demonstrated in *Surface and Symbol*. Unlike that book, however, *Characters of Joyce* has no new material to offer.

Wright's approach takes the form of examining the characters in the sequence of fictional as-versions of Joyce himself, although he stops short of suggesting that the Joyce, as a project of self-analysis, is a "project of self-analysis". In pursuing this inquiry in relation to his art and his life, he trends ground already well-trodden, albeit perfunctorily. Entering the more difficult terrain of the artist as husband and father, the author is paralyzed by a discretion which, if he insisted on retaining it, ought to have deterred him at the start. "Knowing where to stop in this kind of analysis is a recurring difficulty," he reflects, after querying Adams's "surveys, undeniable observation that, in Joyce's Joyce endowed Bloom with his own traumas and obsessions. Wright's own speculations proceed no farther than suggestions such as that perhaps Bloom's wedding day is excluded from his memories because his creator was horrified married to him when he wrote

the book.

Attention to the connexion between Gabriel Conroy (in *The Dead*) and Joyce is devoted largely to his relationship with his mother, and it is equally devoted to a study of his own egoism. That Richard Rowan (in *Exiles*) is examined. In the latter connexion, Joyce's heroism in "openly acknowledging" the faults he shares with his creation is alleged to attach itself, in the audience's eyes, to Rowan himself. Joyce, Wright concludes, wanted to show that the world he envisaged in his books was, in fact, the real world. Beyond a routine examination of "self-analysis" or "consciousness" as a product of the writing, and the obstruction offered by the later styles employed in *Ulysses* is not considered as a sign that the reality of Joyce's world did not feature the type of character that Wright seems to believe in.

And that includes the character of Joyce.

Sydney Holt

Sydney Holt is author of *A Portrait of Joyce* (Faber, £12.95).

Computing books from Pitman

Pascal for Science and Engineering

J McGregor and A Watt
Published September 1983

This book teaches the reader how to write programs in Pascal, a language which scientists and engineers have found increasingly valuable since the advent of the microcomputer. The book is written in two parts. The first is a self-contained introduction to Pascal. The second part examines the computer applications that are of interest to the scientist and engineer.

Paper/ISBN 0 273 01889 2/£4.50

Structured Programming: a self-instruction course

R Turner
Published July 1983

This highly innovative book covers all the basic principles of structured programming and structured techniques generally. It explains the tools of structured programming and their interrelations in a way which is independent of any particular proprietary methodology. Each explanation is reinforced by examples and a series of questions and problems.

Cased/ISBN 0 273 01945 7/£5.95

The Theory of Relational Database

David Maier
Published June 1983

This comprehensive book assembles in one convenient source, concepts and results in relational database theory previously scattered through journals, books, conference proceedings etc. Each chapter contains numerous examples and exercises, along with bibliographic remarks. The final chapter provides a brief survey of query languages in existing relational systems.

Cased/ISBN 0 273 08622 7/£5.00

For a copy of our Computing catalogue, contact The Promotion Department, Pitman Publishing Ltd., 128 Long Acre, London WC2E 9AN. Telephone 01 379 7383.

Pitman

BASIC 80 FOR CP/M

Jack Jay Purdum (Butler University)

Written specifically for microcomputers, this up-to-date text covers both programming concepts and the structure of the BASIC language, with an emphasis on language mechanics and techniques.

Organised around Microsoft BASIC 80, the most popular mode for microcomputers, it includes substantial information on the use of the CP/M operating system.

02 397020 2 paperback £11.95
288pp May 1983

FROM
COLLIER MACMILLAN



BARBICAN BUSINESS BOOK CENTRE

Specialist Booksellers and Library Suppliers
to Institutes of Learning and Higher Education

Large selection of Economics books
always available from stock

COMPUTING · ECONOMICS · BUSINESS STUDIES · LAW
ACCOUNTING AND FINANCIAL MANAGEMENT
TAXATION · MARKETING · STATISTICS · BANKING
AND INVESTMENT · SHIPPING · REFERENCE

Personal custom welcome. Orders also taken by post or telephone

BARBICAN BUSINESS BOOK CENTRE

9 MOORFIELDS, LONDON EC2Y 9AE

Tel 01-628 7479. Mornings 10 Fridays 9am to 5.30pm

BOOKS

COMPUTER
SCIENCE

Structured Fortran

Structured Fortran 77 for
Engineers and Scientists

by D. M. Etter
Benjamin/Cummings: Addison-
Wesley, £9.95

ISBN 0 8053 2520 4

A Structured Approach to

Fortran 77 Programming

by T. M. R. Ellis

Addison-Wesley, £8.95

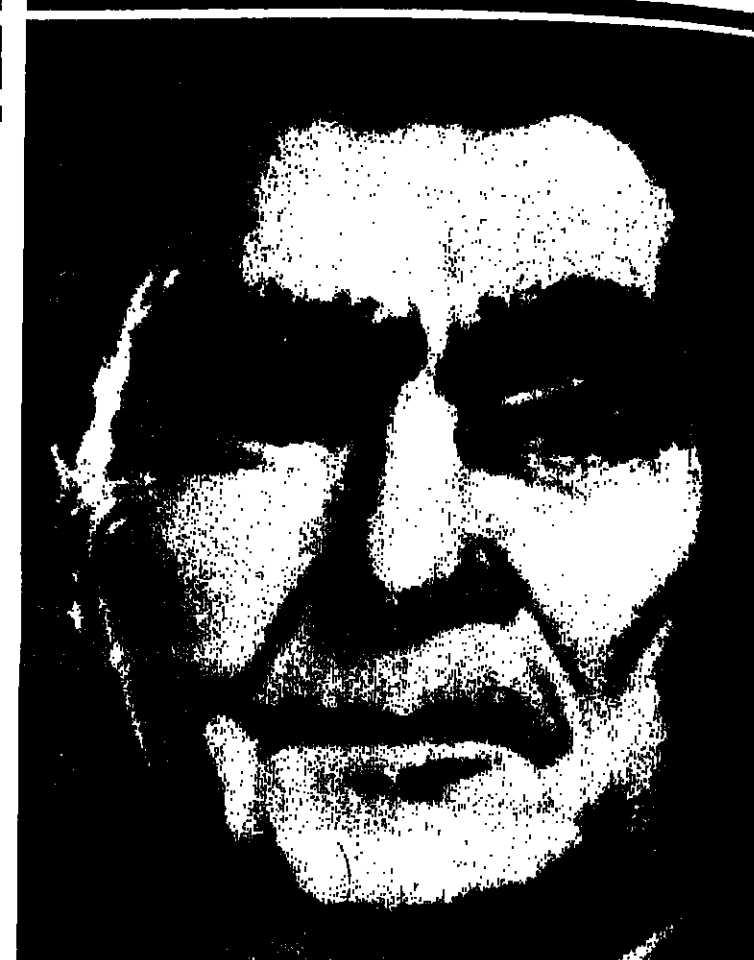
ISBN 0 201 13740 9

Although these two books, one American (Etter) and one British (Ellis), are aimed at an undergraduate audience, they have some noticeable differences.

On the plus side, both authors justify the word "structured" in the title – almost *de rigueur* these days – by giving reasonable attention, rather than just lip-service, to systematic program design. Ellis uses structure plans, effectively a hierarchical system of numbered headings and subheadings, while Etter uses, in parallel, hierarchical systems of pseudocode and flowcharts. Ellis makes a point of decrying flowcharts, repeating (without proof) the fashionable view that "these, by their very nature, tend to encourage badly structured programs". It could be argued that it is easier to recognize good design structure (or its absence) at a glance by looking at a hierarchical set of flowcharts, rather than by reading structure plans, pseudocode or program text. It could also be argued that structure plans tend to encourage badly structured programs by inviting cross-reference using the dreaded "goto" controlling statement (or set of instructions). In fact the books show that each can be made to work reasonably well, and choice here is largely a matter of taste. Etter's pseudocode in fact very much like Fortran but his flowcharts are very good – if you like flowcharts.

Fortran is notorious for its limited facilities for repetition of sequences of operations, in particular its lacking specific constructs for repeating a cycle while a given condition holds, or "until" a given condition is satisfied; these have to be fabricated from more primitive branching constructs. Ellis implements the "while" loop by the conventional primitive conditional jump method, whereas Etter uses the preferable method of a conditional block which jumps to itself repeatedly until the condition fails. The only advantage of the Ellis method is that you can do "until" loops the same way. However, I preferred the Ellis approach of introducing loops first, rather than conditionals. Both authors are reasonably sound on control structures, and on coping with Fortran's deficiencies.

When it comes to data, both authors leave more to be desired. Because of problems in the way Etter has ordered



Computer-generated composite of the features of the leaders of five of the countries possessing nuclear warheads – Reagan, Brezhnev, Mitterand, Thatcher and Xiaoping – the degree to which each face appears being proportional to the number of warheads in each country. Taken from Joseph Deeken's *Computer Images: state of the art* published by Thames and Hudson at £15.00 and £9.95.

his material, his book leaves the impression that it is derived from a course long predating Fortran 77, with the block "if" the only major new feature. He does, however, offer sensible advice about the use of explicit specification statements in programs to delineate the kind of data to which each name refers. Ellis has come to terms with Fortran 77 more thoroughly, although again there are deficiencies in the way he has ordered his material. It is also less satisfactory than Etter on explicit declarations for all the names of the type of data associated with them.

A cause for concern in both books is the too casual treatment of numerical error. Etter uses loops with control variables which can take real number rather than whole number values (one of the disasters of Fortran 77) without comment or warning that real number arithmetic on computers is approximate and that the control variable is going to get progressively corrupted by rounding error. Ellis is at least aware of the danger but regards it as unimportant unless the number of times the loop is executed is affected – although later he shows an example of the improved accuracy you can achieve by using double precision arithmetic which effectively demolishes his earlier argument. The point is that error may accumulate only slowly in the loop variable itself, but can be greatly magnified if its value is used in other calculations. The only worthwhile advice is, never let error accumulate if you can avoid it.

Both authors base their approach on case-studies and examples, although Etter provides many more. Both provide useful summarized hints on style and technique at the end of chapters. Although in general the advice is sound, though not comprehensive, I did not like Etter encouraging students to learn implementation-specific extensions, or Ellis encouraging incremental bottom-up development because at each step "we do not have far to look if errors do occur" – an oversimplification to say the least.

Ellis's book is more utilitarian and includes Fortran 77 syntax in railroad diagram form. Because of this, and the greater commitment to Fortran 77, it could be used for a course of directed self-study, with due warning about its limitations, and the correction that exponentiation associates from right to left. Although the main strength of Etter's book is its plentiful supply of examples, it could be used for a closely controlled instructional course with supervised practicals (using the accompanying instructor's guide, available separately from Addison-Wesley).

As this is a very competitive market, however, both books have too many deficiencies and neither is distinctive enough for unreserved recommendation.

A. D. McGettrick

A. D. McGettrick is professor of computer science at the University of Strathclyde.

A second edition of Martin Gardner's *Logic Machines and Diagrams* has been published, with a foreword by Donald Michie, by Harvester Wheatsheaf, £15.95 and £4.95. Beginning in the 19th-century Europe with the mechanical devices, Gardner traces the story to the electrical logic machines, abandoned in favour of general purpose computers, and finally to today's computer-based work on artificial intelligence.

BOOKS

COMPUTER
SCIENCE

Master and apprentice

Graded Problems in Computer Science

by A. D. McGettrick and P. D. Smith

Addison-Wesley, £7.95

ISBN 0 201 13787 9

The software industry must be the only industry that delivers products that are known to be faulty. Any large software system is expected to have "bugs", and projects include large budgets for software "maintenance" – a euphemistic term for the process of eventually getting the software more or less right.

Now that microcomputers are used to control everything from Cruise missiles to microwave ovens, the possible consequences of program errors range from the frightening to the horrific, and the main thrust of much current research is towards establishing program design techniques that will yield provably correct programs. This research, however, has a long way to go, and in the meantime we must teach programming with an emphasis on reducing the possibilities of error to an acceptable level.

But can we teach programming? The more enlightened teachers (and texts) have recognized that learning a programming language is by no means the same as learning to program. The rules of the programming language can be taught, but at the present time the skill of designing programs that do the desired job efficiently and reliably is, in part at least, a craft that can be learned, but not taught. So how does the educator go about the task of producing good programmers? There are three main components to my preferred approach.

First, the student must be shown the way programs are developed, much as the master would demonstrate the art and mystery of his craft to his apprentices. Lecturers should not present worked solutions in linear fashion from the first "begin" to the last "end"; they should talk through the design process, demonstrating the iterative steps that are a feature of most design



Female robot from Fritz Lang's film *Metropolis* (1926). Taken from Peter Laurie's *The Joy of Computers*, published by Hutchinson at £9.95.

activities and always trying to convey why the program is constructed as it is. Second, students must read programs written by experienced practitioners. In this way they will not only acquire the rudiments of style, as a would-be author learns his style from reading the great masters, but they will also learn the idioms of the language. Finally, and most important, the student must learn by doing; he must write programs

and then he must write more programs.

It is here that for most lecturers the heart sinks: faced with the prospect of producing yet more practical examples, a certain mental numbness comes upon them. Enter the marriage, in the guise of McGettrick and Smith, who come to the rescue magnificently. Their book provides a collection of problems suitable for all levels, its ten chapters taking the student from very simple "straight line" programs to challenging problems that can be used as a basis for project work. The presentation is independent of any particular programming language, although it assumes a modern "structured" language with control and data-structuring facilities akin to those of Pascal. Successive chapters cover the control structures first, then data structures; and modules, packages and abstract data types get a chapter to themselves, as do a collection of advanced topics like stepwise refinement and backtracking. Most of the exercises are suited to both interactive and batch environments, but there is one chapter devoted to genuinely interactive programs.

Within each chapter the exercises are linked by sections of explanatory material and examples to bring out the salient points of the matter in hand. Interestingly, the authors suggest that only 5 or 10 per cent of the exercises should actually be run on the computer, the remainder being used to provide practice in thinking. Following this line of thought, I can envisage a new style of programming course in which suitable exercises would be used as a basis for seminar-style classroom work, with the students being invited to propose methods for solution and the lecturer guiding the discussion – the master and apprentice analogy again.

The book is far more than just a collection of exercises. The examples and explanatory material introduce the student to ideas and techniques that he might not encounter elsewhere – for example, the chapter on files could be used as a potted course on commercial data processing within a computer science degree course, based on Michael Jackson's programming methodology. The imaginative teacher will find much in the book to stimulate him in devising a programming course of a modern nature, and the authors are to be congratulated on a major contribution to the teaching (and learning) of programming.

David Barron

Professor Barron is head of the department of computer studies at the University of Southampton.

Cobol converts

Methodical Programming in Cobol

by Ray Welland

Pitman, £5.95

ISBN 0 273 01820 5

Despite the fact that no respectable computer scientist lets the word Cobol pass his lips without a ritual exorcism, far more software has been written in it than in any other language. Ray Welland's book is a clear and well indexed introduction to the language, complete with good case-studies and exercises.

It has, however, none of the usual paraphernalia (flowcharts, Jackson structured programming, print layout charts, special typefonts), and no discussion of machines, peripherals, specific implementations, operating systems, text editors, or systems analysis. It includes only a small amount of the ANS 1974 language standard, and among the more surprising omissions are "move corresponding", "perform through" and "usage".

The book adopts as a vehicle a separate program design language (PDL), in which programs can be designed in the simplest possible terms before being enshrined in Cobol itself. The structural primitives include "until", "do", "enduntil", "if", "then", "endif", "endif", "for", "to", "and", "all", of which will be familiar to Pascal programmers. Higher level constructs are initialization, procedure, termination, selection, iteration, and call by reference. There is a standard program

skeleton, by reference to which all program examples are developed, and there are systematic rules for converting from the PDL to Cobol. The author is good at generalizing sound guidelines for dealing with potentially tricky situations. The approach results in Cobol code that is well structured and readable (and therefore more likely to be correct), although the author does admit that he trades correctness and maintainability for efficiency.

Reactions to the PDL will determine reactions to the book. As I have said, it is sufficiently accessible to any student whose first language was Pascal (the majority of computer science students). In so far as Pascal is a good language in which to start, a Pascal-like PDL is an equally good strategy for students learning Cobol as their first language.

However, any given piece of PDL is so similar to its Cobol equivalent as to make me concerned that students are being required to write out everything effectively twice – an unnecessary discouragement in a language as verbose as Cobol. There could be two escapes from this bind. The obvious one is to provide a software preprocessor, so that the systematic conversion to Cobol – or most of it – is done automatically. The other would be to spread the transition from PDL to Cobol throughout the program development process, so that final refinements are always directly into Cobol; this, however, would involve a completely different book.

One way or another, the idea firmly sown in my mind is of the desirability of a set of software tools forming a Cobol programming support environment, for which this book would be an excellent basis, and which would assist the efficient design, construction, testing and maintenance of high-quality Cobol software. Whichever way the

debate may go, however, the use of the PDL is bound to aid clarity of thought, to separate consideration of algorithms and structures from those of mere syntax, and to lead to better and safer designs.

The author's standards on data-naming, though not made fully explicit, are good: he does not indulge in the passion for over-abbreviation that probably contributes more than any other single factor to program unintelligibility, and his name formation is consistent. He is specially good on the use of the "if" statement (a notoriously difficult area), on program testing, and on file updating.

I wonder about the value of using "transfer" and "calculate" in the PDL to represent "move" and "compute" in Cobol – why not the same verb in both cases? And one or two terms are used without prior definition. My main criticism, however, is that a Pascal-bred computer science student might read this book and fall to see the point of Cobol, because so small a subset is presented and because there is little or no indication of the language's range, power and usefulness. The book could have avoided this criticism, while still retaining the excellence and uniqueness of its pedagogical approach.

Colin Tully

Colin Tully is lecturer in computer science at the University of York.

A third edition of Colin Tapper's *Computer Law* has been published by Longman at £9.50. Tapper charts the main features of the law's changing response to the growth and activity of the computer, using actual cases to examine from a practical point of view the central theories of the common law in the fields of intellectual property, contract, tort, crime, privacy and evidence in their application to computers.

Computing with Edward Arnold

Data Analysis for Data Base Design

A First Book

D. R. Howe

The subject of data analysis for data base design is now a tool of great practical value to the systems analyst and designer. This text examines the concepts in detail, taking a practical viewpoint and encouraging the reader to grasp the basic principles.

£9.50 paper 320 pages

Guide to ALGOL 68

For Users of RS Systems

P. M. Woodward and S. G. Bond

The completeness of the language description and the convenience of the layout of information makes this book an excellent reference for all ALGOL 68 programmers.

£5.95 paper 144 pages

Microprocessors and their Manufacturing Applications

A. K. Koehhar and N. D. Burns

A text dealing with the applications of microcomputers in manufacturing, illustrating design and selection concepts and how projects involving microcomputers can be brought to a successful conclusion.

£13.50 paper 336 pages

Minicomputer and Microprocessor Interfacing

J. C. Cluley

A text dealing with the design and operation of the interfaces between small on-line computers and microprocessors and the plant, processes, machines etc., which they control.

£20 boards 276 pages

FORTAN 77

Donald M. Monro

Thoroughly scholarly work, the author has produced not a teaching aid but a learning aid: armed with this book and a considerable number of not disagreeable hours, the student will become a very good Fortran programmer. Lucid style, wealth of splendid material... thorough-going analysis of the language. *THESE*

£9.50 paper 368 pages

Basic Principles and Practice of Microprocessors

D. E. Haffer, G. A. King and D. C. Keith

As a source the book provides in a readily accessible form the type of material needed by a typical user – that is someone whose main work is elsewhere but who has need of a micro in some application from time to time. The logical layout is impeccable. *Physics Bulletin*

£5.95 paper 208 pages

COBOL for Students

Second Edition

Andrew Parkin

A new edition of this popular text, based on ANS COBOL and now revised to include structured program design. It is suitable for newcomers to COBOL and also for students with some knowledge of programming who want to develop their proficiency in the language.

£5.95 paper 224 pages

Systems Analysis

Andrew Parkin

'Analysis and design is changing, and this compact book contributes by stimulating a re-think of the role of this work. It is well worth reading by students and all involved in data processing.' *Computer Weekly*

£6.95 paper 228 pages

Systems Management

Andrew Parkin

'A useful readable book which I would recommend senior systems analysts and programmers to read. Alongside the companion book *Systems Analysis* I have recommended this book for purchase by students following advanced level systems analysis courses... a worthwhile purchase.' *The Computer Journal*

£7.95 paper 176 pages

Software Engineering for Small Computers

R. B. Coote

'This book should please any budding programmer who has already acquired a basic understanding of computer hardware and programming and who wishes to develop his skill... good value for money.' *Information Technology Training*

£6.50 paper 256 pages

Edward Arnold

41 Bedford Square
London WC1B 3DQ

BOOKS

COMPUTER SCIENCE

Classic algorithms

Data Structures and Algorithms
by A. V. Aho, J. E. Hopcroft
and J. D. Ullman
Addison-Wesley, £13.95
ISBN 0 201 00023 7
Algorithms
by Robert Sedgewick
Addison-Wesley, £13.95
ISBN 0 201 06672 6

Just as the study of chromosomes and their constituents is the foundation of the life sciences and that of atoms and their infrastructure the basis of the physical sciences, so the study of algorithms and their representation lies at the heart of computer science. We are all familiar with the striking double helical form of the DNA molecule and it is well known that subatomic particles can possess charm, so it should come as no surprise that essential algorithms often exhibit a deep logical and structural beauty.

Like other fundamental entities algorithms are not quite the static objects which they may, at first sight, appear to be. For, when used to solve a particular problem, their symbiotic behaviour may be subtly affected by the structure, volume and location of the data to which they are applied and by the idiosyncrasies of the architectures of the devices on which they are executed.

Despite their primary importance, good books on algorithms have been scarce. Knuth's monumental attempt to produce a definitive and encyclopaedic treatment of the subject as it stood at the beginning of the last decade, a project that regrettably seems to have been at least temporarily abandoned - as difficult to find as black holes. It is therefore cause for celebration that two such worthy additions to the literature should appear almost simultaneously. Even more gratifying is the realization that these books need not be regarded as rivals but as a well-matched pair each of which enhances their mutual strengths while unobtrusively compensating for its partner's deficiencies.

The more sober of the two comes from the highly successful team of Aho, Hopcroft and Ullman - the source, in recent years and in various authoritative combinations, of a steady stream of successful texts that have proved such a boon to those engaged in undergraduate teaching. The traditional abstract data types, lists, queues, sets, trees and graphs are well described, a number of alternative representations and implementations of each being provided in terms of a slightly extended version of Pascal. Throughout, there is a commendable attempt to view data structures in isolation from the algorithms which process them, with considerations of storage economy and ease of maintenance and access influencing and guiding their implementations.

The algorithms discussed are chiefly concerned with sorting and searching techniques and with graph processing problems. The benefits of the use of abstract programming are emphasized and amply justified; there are excellent and well motivated introductions to complexity theory and algorithm design strategies, and the many exercises provide scope for further discussion and exploration. As with all multi-author works, the joins tend to show a little from time to time but overall this is a solid and respectable, if slightly passé, textbook which could profitably be used in support of a wide range of software courses.

Of the two, Sedgewick's book is therefore more readable and attractive, referring as it does to its net wide at the expense of detailed discussions of data representation and complexity analysis. As a result, it is possible to give a more catholic view of the subject than that provided by the other. For example, numerical algorithms are happily restored to their rightful place in the canon, the strong relationships which exist between many graph and computational geometric algorithms are highlighted; some trenchant remarks are made about the current possibility of implementing algorithms as machines; and there is an illuminating section on NP-completeness which points the way to difficult research problems. The material is invitingly arranged in 40 brief chapters under eight major headings. Again, Pascal is used as the implementation language.

But it is as a wonderful anthology of classic algorithms that the book makes its major impact. It is a glittering compendium of the many significant contributions made by some of the finest minds, anonymous, ancient and modern, to computer science in its widest interpretation. The book is beautifully produced and is illustrated throughout with pictures generated by some of the algorithms discussed. As

resting points in the text these drawings are at once intellectually bracing and visually soothing. It is not difficult to foresee that this impressive book will be read and treasured years after much of the ephemera and dross which so disfigure and expose to ridicule contemporary computer science publishing, has been long and mercifully forgotten.

Network design

Introduction to Local Area Computer Networks
by K. C. E. Gee
Macmillan, £6.50
ISBN 0 333 34658 0
Principles of Computer Communication Network Design
by J. Seidler
Ellis Horwood, Wiley,
£37.50 and £12.95
ISBN 0 85312 241 5 and 104 4

With the plethora of new books being published each month in subjects bordering on computer communications, it is pleasant to report that both these books will merit a place on my bookshelf. The first is a very readable account of local area networks - with no mathematical analysis and little emphasis on performance or software. The second is very mathematically based (as are most of the techniques required in computer communication design) - with no mention of any particular technologies.

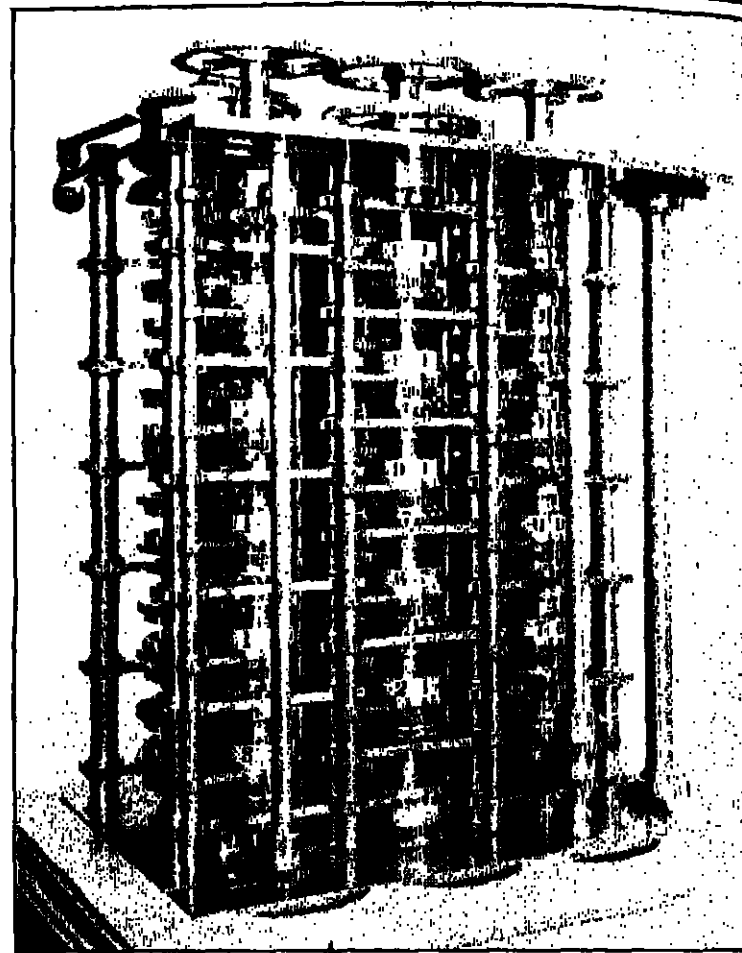
Gee's book is mainly descriptive and contains chapters on the following themes: characteristics of local computer networks, data transmission technologies, software and hardware requirements, examples of local area networks, performance characteristics, and applications for local area networks. This material could form the basis for part of a data communications course, and would represent what I would teach to third-year undergraduates in six lectures.

The book is particularly clear in its characterization of network technologies: it has a very useful discussion of data transmission technologies and of methods of network access, and a good account of the 1982 local network offerings by different manufacturers. It is very limited, however, in its coverage of software requirements or availability. Also, there is no real consideration of gateways between local area and wide area networks, and the treatment of performance issues is inadequate even for a text-lecture component on local area networks.

Although Gee's review of current systems is helpful, he provides much too little technical detail on the individual characteristics of the network he mentions. His discussion of applications is particularly poor: although he highlights "the electronic office" as an application area and mentions some of the services sent on teletext, electronic mail and data bases, he dismisses each in two to three lines. "Flow control", "congestion control", "routing", "addressing", and "name servers" do not appear in the index.

The method of presentation used in the earlier chapters to explain simply the characteristics of networks and communications, together with diagrams, is on. If you are considering the book for your course, I would suggest that you supplement it with fuller discussions of protocol structures, gateways, performance issues, reliability requirements, and applications. Seidler's book provides a deep and thorough analysis of mechanisms in computer communication networks, with chapters on fundamental concepts of problems in computer communication network design: open systems with a common channel; feedback systems with a common channel; common channel systems with coordinated mode operation; fundamental problems of routing; routing based on optimum flows; congestion and methods of combating it; and organization of channel capacities and network technologies.

Although Seidler has deliberately restricted his discussion of specific technologies, he does provide a very thorough account of fundamental principles of network design. This book is



Charles Babbage's difference engine, an early calculating machine abandoned in 1833 through withdrawal of government funding. Taken from Christopher Evans's *The Making of the Micro: a history of the computer*, issued in paperback by Oxford University Press at £1.95.

"addressed to specialists in computer network design and to graduates and postgraduate students specializing in computer science", but my students would find its mathematical treatment demanding and difficult. Indeed, the mathematical treatment is so all-pervasive that only those specializing in theoretical aspects would get much out of it. They would, however, get a great deal: Seidler's book would require forty lectures in areas like performance considerations, whereas Gee would require 30 minutes.

Most computer science undergraduates in Britain are so inadequately prepared in mathematical and statistical techniques that they would very quickly become lost in the book. If it can be used in an undergraduate course in Poland, I presume students there spend very much less of their time in practical work and very much more in theoretical analysis. (This is not to be taken as a criticism.) Courses here, however, last only three years and undergraduates must expect to spend a larger proportion of their time on computer software than on mathematical theory. Although we do have some advanced teaching on some MSc courses, none of these specialize in computer communications. We could really benefit, therefore, from the sort of in-depth treatment this book has to offer: the system in the United States, for example, with its two years of

P. T. Kirstein

Professor Kirstein is head of the department of computer science at University College London.

A second edition of R. F. W. Coates's *Modern Communication Systems* has been published by Macmillan at £16.00 and £7.95. A new chapter on the integrated services digital network has been added.

STATISTICS: A SPECTATOR SPORT

Richard Jaeger University Of North Carolina, Greensboro

An invaluable work for people who need to understand statistics and utilise their results. This book is not a technical one and is not for people involved in statistical analysis. Its purpose is rather to teach the reader how to understand and apply statistics in the course of his work. Jaeger uses examples (but not equations) to illustrate his argument and to demonstrate how best to approach and understand statistical reports from all areas, including business and government, education and behavioural sciences. Most of the examples are from education, but people in all fields that involve the use of statistics will find this book of great value. Written with great clarity, this is a first-rate statistics book for the non-statistician.

December 1983 • 350 pages
Cloth £21.75 • Paper £10.95

SAGE Publications • 25 Banner Street
London EC1Y 0QE • Telephone: (01) 253-1516

BOOKS

COMPUTER SCIENCE

Pascal guides

Pascal Programming: a beginner's guide to computers and programming
by Chris Hawksley
Cambridge University Press,
£12.50 and £4.95
ISBN 0 521 25302 0 and 27392 0
Pascal for Science and Engineering
by J. J. McGregor and A. H. Watt
Pitman, £5.95
ISBN 0 273 01889 2
Standard Pascal User Reference Manual
by Doug Cooper
Norton, £9.50
ISBN 0 393 30121 4

Pascal is a very popular language and is now widely available on computers (the BBC Micro for example is soon to have a Pascal chip). Designed originally by Niklaus Wirth, as a teaching language, it is relatively simple to learn and contains good control constructs and useful data structures. It lends itself to good program design: good Pascal programs are easy to modify and maintain - the commercial manager's dream. It is also relatively portable (compared with Fortran or Basic) and compiles into fast executable code.

Each of these three books has something new to offer. Hawksley's book would be especially useful for beginners who are not scientific and

have no prior knowledge of computers. Its first chapters provide a gentle and very interesting introduction, in which the author is not afraid of introducing syntax diagrams. Worked examples and exercises are also provided.

The chapters on the teaching of the language itself, however, are not quite so thrilling. Some features are also irritating: the abundant use of single quotes might confuse the Pascal beginner; the "goto" statement appears even before comments; pointers are totally left out; and the function examples are rather too strongly mathematical. Nevertheless, the book should provide an excellent introduction for any computer novice.

McGregor and Watt's excellent book is again for total beginners in Pascal but is especially geared to science and engineering undergraduates. The first part provides a very thorough introduction to the language itself, with frequent and varied examples and exercises. An appealing feature is the abundance of practical hints dotted throughout the text - for example, how to arrange a "for" loop when effectively a "real" step value is required.

In the second part, Pascal is used to illustrate fundamental numerical analysis techniques for functions, differentiation, integration, ordinary differential equations and sets of linear equations. An informative chapter on character graphics and line graphs should appeal not only to users of computers with good graphics facilities but also to those with less specialized equipment. Finally, there is a chapter on data analysis, which includes an excellent description of Fourier transforms and other time series examples. The whole text is easy to read and to understand.

Although there are thousands of Pascal programmers, only a few are thoroughly knowledgeable about the ISO standard for Pascal (ISO 6302). Of necessity the actual ISO standard is formal and strict: it is

no trivial task to find a particular piece of information and comprehend it. Cooper's reference manual should help, the rather formal title belies the informal yet informative exposition. This really is a treasure trove for anyone who wants to get to know standard Pascal.

The author first defines the notation and terms used in the standard - like "error" and "violation". After describing the ideas behind a particular construct, Cooper gives the Backus normal form (BNF) syntax, the syntax diagram, and clear examples, some legal and some illegal (clearly labelled as such). He is not afraid of exploring the "grey" areas - in fact he delights in it. In addition, he frequently relates the history behind the chosen ISO standard, explaining different points of view, advantages and disadvantages - all of which should provide readers with a better understanding of the difficulties of deciding upon a standard in the first place.

The general construction of the book is excellent - for example, there are frequent references to other parts of the text. However, I would have liked to have seen the "dangling else" problem better illustrated. Also, as conformant arrays are relatively unfamiliar to many readers, it would have been of value to have seen this and the remaining limitations on array manipulation thoroughly explored. The appendices on collected errors, BNF and syntax diagrams are most useful, but what is the point of having a six-page appendix "A Quick Introduction to Pascal" in a book mainly intended for existing Pascal programmers?

Despite these minor criticisms, I can recommend the book for its excellent contents and readability.

Gillian Lovegrove

Gillian Lovegrove is lecturer in computer studies at the University of Southampton.

Becoming expert in Ada

Ada for Experienced Programmers
by A. Nico Habermann and
Dewey E. Perry
Addison-Wesley, £16.10
ISBN 0 201 11481 X

One characteristic of the computing field at present is the wide variety of experience among its practitioners. There are many newcomers, who rapidly become experts in particular areas, and people who have a range of expertise acquired over many years, and all shades of knowledge between these extremes.

As a consequence, authors of books on computing have considerable difficulty in making reasonable assumptions about the prior knowledge of their readers, and the choice of chapters and an appendix about concurrent processing and low-level programming. Each chapter discusses issues raised by one problem, usually introducing one major topic directly and a number of others incidentally. This makes the book easy to read, but results in some rather surprising contingencies - for example, the discussion of separate compilation comes in the chapter on variant records, and exceptions are introduced in the chapter on array types. This rather random ordering in the presentation of topics makes the index an essential part of the book.

After presenting the problem to be considered in each chapter, the authors discuss the issues it raises and then develop a solution in Pascal (where possible) and solutions in Ada. Initially, these are similar to the Pascal solutions, but later chapters also show alternative designs, where Ada offers important improvements. The various design decisions are explained clearly in the text, and the complete programs, followed by a list of reminders about points covered and a set of exercises. Within this framework, linguistic features are explained whenever they happen to arise in the solutions.

Problems have been well chosen to illustrate software design issues. Most are fairly traditional, but it is pleasing to note several with an "Ada feel" to them. These are chapters on the handling of calendar dates, vector and string operations, matching character strings, complex and rational numbers, finding a zero of a smooth monotonic function, handling queues, tree-structures and sets. Classical problems are also used to illustrate the parallel programming features. Ada solutions are presented for the producer-consumer problem, readers and writers, dining philosophers and resource allocation. In addition there are chapters on device handlers (with a section on interrupt handlers in the

chapter on sets) and low level input and output. Some issues raised by the problems are not covered, presumably because they would not add further to the understanding of the language. However, I find it disconcerting that string handling and tree handling were presented with no mention of garbage collection; also that inner products of vectors and zero-finding for continuous functions were discussed with only cursory mention of precision. Experienced programmers are certainly not assumed to be experienced numerical analysts.

Despite my criticisms, I can strongly recommend this book to serious programmers. Together with the practical use of an Ada system, it provides the ideal way of learning the language.

I. C. Pyle

I. C. Pyle is professor of computer science at the University of York.

Macmillan reference paperbacks have published the 1984 edition of *The Microcomputer Users Handbook*, a comprehensive guide to buying a business computer, by Denis Longley and Michael Shain - available at £16.95.

Wiley

CORRUMPT NEW YORK
BRISBANE TORONTO SINGAPORE

ADVANCED PROGRAMMING: A Practical Course

by D.W. Barron, Computer Studies Group, University of Southampton, and J.M. Bishop, Computer Science Department, University of Walsworth, South Africa

A practical text which takes over where the elementary courses leave off, designed to give a solid grounding in programming with emphasis on systematic design, construction and the verification of programs. It describes two major assignment techniques of which is designed to occupy the student for a whole semester. The book will serve as an excellent foundation for software engineering courses.

Wiley Series in Computing
0471 90319 1 approx 280pp April 84 approx £10.75

PROPER BASIC

by B.C. Walsh, Computer Laboratory, University of Liverpool

Designed to improve the reader's knowledge of BASIC while developing a deeper insight into computers and programming techniques, this book is an invaluable self-teaching guide for both beginners and practising programmers. A common read BASIC dialect is used and features available on a wide range of microcomputers are illustrated. 0471 90081 8 412pp November 83 £12.50

PROGRAMMING IN BASIC (Videotape Course plus Book)

by Ian Richmond, Edinburgh University and John Cookson, London Hospital Medical College

This course aims to teach people how to use BASIC safely and sensibly. The emphasis is on the construction of programs, with BASIC the language chosen to show how this should be done. The course consists of notes, the videotape series, and a book. PART 1: The Syntax of BASIC; Program Design, and Program Construction; PART 2: Introduction to Statements in the BASIC Language; PART 3: Arithmetic Expressions; PART 4: Handling Character Data, The String Variable; PART 5: Ways of Using Repetition in Designing Programs; PART 6: Subroutines; PART 7: Sorting Data. December 83 Video £29.95 Book £4.85

AVAILABLE IN VHS, BETAMAX & UMATIC - running time one & half hours

USING BBC BASIC

by P.J. Cookson, University of Kent at Canterbury

This book aims to develop both skills in BBC BASIC and a more intimate knowledge of some of the special features on the BBC Microcomputer. Programs as well as text are presented in an easy and accessible style and the emphasis is very much on developing various techniques and skills by actually using the programs provided. 0471 90242 X 382pp November 83 £6.95

For further information please write to the Textbook Manager - inspection copies of certain books available.

John Wiley & Sons Limited
Baffins Lane, Chichester, Sussex PO19 1UD, England

In-Depth Understanding

A Computer Model of Integrated Processing for Narrative Comprehension
MICHAEL G. DYER

For computer scientists interested in the theory of memory representation, organisation and processing in computational models of language comprehension. The book describes the theory and its implementation in a computer programme called BORIS, which reads and answers questions about complex narrative texts. The system is unique in attempting to understand narratives involving emotions, using memory constructs called Thematic Abstraction Units to handle abstract themes. A micro-programme model and exercises are included as an appendix.

0-262-04073-5 480 pp. Harback £31.50

The MIT Press
128 Buckingham Palace Road, London SW1W 9SD



GEORGE'S COMPUTER BOOKSHOP

A bookshop dedicated to computer books and home computer software. One of the best selections of computer books (over 1,600 titles in stock) in the U.K. We aim to give an interested service to our customers in their quest for information on this rapidly expanding new technology.

We have many satisfied customers from all over the U.K. and overseas. Why not telephone or write to us. Contact Jean Young the manager of this specialised bookshop. Barclaycard and Access welcome.

87 Park Street, Bristol BS1 5PJ

Tel. 0272 276602 ask for Computer Bookshop

Universities continued

Massey University
Palmerston North, New Zealand
Biotechnology Department
LECTURER IN MICROBIAL GENETICS

A position is available in the above department for a Lecturer in Microbial Genetics. The successful candidate will be responsible for teaching and research in the field of microbial genetics. The position is full-time and requires a PhD in Microbial Genetics or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Engineering, Massey University, Palmerston North, New Zealand, by 15 January 1984.

Further details of this position and the University of Massey, including details of the department, are available from the Department of Engineering, Massey University, Palmerston North, New Zealand, or from the Registrar of the University, Palmerston North, New Zealand. Closing date 15 January 1984.

University of Durham
Department of Engineering
RESEARCH ASSISTANT IN BIOENGINEERING

Applications are invited for a Research Assistant in the Department of Engineering, University of Durham. The successful candidate will be responsible for assisting in the research programme in the field of bioengineering. The position is full-time and requires a BSc in Engineering or an equivalent qualification. The successful candidate will be expected to assist in the design and construction of experimental apparatus and to carry out experiments under the supervision of the Principal Investigator. Applications should be sent to the Department of Engineering, University of Durham, by 15 January 1984.

Initial salary will be in the range £3,100-£3,700 per annum plus superannuation. Further details of this position and the University of Durham are available from the Department of Engineering, University of Durham, or from the Registrar of the University, Durham. Closing date 15 January 1984.

Applications (three copies) should be sent to the Department of Engineering, University of Durham, by 15 January 1984. The successful candidate will be expected to assist in the design and construction of experimental apparatus and to carry out experiments under the supervision of the Principal Investigator.

University of East Anglia
Norwich
TEMPORARY LECTURER IN ECONOMICS

Applications are invited for a Temporary Lecturer in the Department of Economics, University of East Anglia. The successful candidate will be responsible for teaching and research in the field of economics. The position is full-time and requires a PhD in Economics or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Economics, University of East Anglia, by 15 January 1984.

Further details of this position and the University of East Anglia are available from the Department of Economics, University of East Anglia, or from the Registrar of the University, Norwich. Closing date 15 January 1984.

University of Oxford
ASSISTANT REGISTRAR

Applications are invited for an Assistant Registrar in the Department of Engineering, University of Oxford. The successful candidate will be responsible for assisting in the administrative work of the department. The position is full-time and requires a BSc in Engineering or an equivalent qualification. The successful candidate will be expected to assist in the design and construction of experimental apparatus and to carry out experiments under the supervision of the Principal Investigator. Applications should be sent to the Department of Engineering, University of Oxford, by 15 January 1984.

University of Birmingham
Department of Engineering
LECTURER IN MANUFACTURING TECHNOLOGY AND AUTOMATION

Applications are invited for a Lecturer in the Department of Engineering, University of Birmingham. The successful candidate will be responsible for teaching and research in the field of manufacturing technology and automation. The position is full-time and requires a PhD in Manufacturing Technology or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Engineering, University of Birmingham, by 15 January 1984.

Further details of this position and the University of Birmingham are available from the Department of Engineering, University of Birmingham, or from the Registrar of the University, Birmingham. Closing date 15 January 1984.

University of Otago
Dunedin, New Zealand
POSTDOCTORAL FELLOWSHIPS

Applications are invited for Postdoctoral Fellowships in the Department of Engineering, University of Otago. The successful candidate will be responsible for assisting in the research programme in the field of engineering. The position is full-time and requires a PhD in Engineering or an equivalent qualification. The successful candidate will be expected to assist in the design and construction of experimental apparatus and to carry out experiments under the supervision of the Principal Investigator. Applications should be sent to the Department of Engineering, University of Otago, by 15 January 1984.

Further details of this position and the University of Otago are available from the Department of Engineering, University of Otago, or from the Registrar of the University, Dunedin. Closing date 15 January 1984.

The University of Manchester
Department of Engineering
LECTURER IN WEST EUROPEAN POLITICS

Applications are invited for a Lecturer in the Department of Engineering, University of Manchester. The successful candidate will be responsible for teaching and research in the field of West European politics. The position is full-time and requires a PhD in West European Politics or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Engineering, University of Manchester, by 15 January 1984.

Further details of this position and the University of Manchester are available from the Department of Engineering, University of Manchester, or from the Registrar of the University, Manchester. Closing date 15 January 1984.

University of Oxford
In association with New College
LECTURER IN INORGANIC CHEMISTRY

Applications are invited for a Lecturer in the Department of Engineering, University of Oxford. The successful candidate will be responsible for teaching and research in the field of inorganic chemistry. The position is full-time and requires a PhD in Inorganic Chemistry or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Engineering, University of Oxford, by 15 January 1984.

University of Oxford
In association with Brasenose College
LECTURER IN ORGANIC CHEMISTRY

Applications are invited for a Lecturer in the Department of Engineering, University of Oxford. The successful candidate will be responsible for teaching and research in the field of organic chemistry. The position is full-time and requires a PhD in Organic Chemistry or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Engineering, University of Oxford, by 15 January 1984.

University of Oxford
PROFESSORSHIP OF MECHANICAL ENGINEERING

The electors intend to proceed to the election of a Professor of Mechanical Engineering in the Department of Engineering, University of Oxford. The successful candidate will be responsible for teaching and research in the field of mechanical engineering. The position is full-time and requires a PhD in Mechanical Engineering or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Engineering, University of Oxford, by 15 January 1984.

Fellowships

Oxford Centre for Management Studies
As a result of a recent major benefaction the Oxford Centre for Management Studies

invites applications for Fellowships in Management Studies. The successful candidate will be responsible for teaching and research in the field of management studies. The position is full-time and requires a PhD in Management Studies or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Oxford Centre for Management Studies, by 15 January 1984.

Further details of this position and the Oxford Centre for Management Studies are available from the Oxford Centre for Management Studies, or from the Registrar of the University, Oxford. Closing date 15 January 1984.

The University of Lancaster
Department of Chemistry
POSTDOCTORAL FELLOWSHIP

Applications are invited for a Postdoctoral Fellowship in the Department of Chemistry, University of Lancaster. The successful candidate will be responsible for assisting in the research programme in the field of chemistry. The position is full-time and requires a PhD in Chemistry or an equivalent qualification. The successful candidate will be expected to assist in the design and construction of experimental apparatus and to carry out experiments under the supervision of the Principal Investigator. Applications should be sent to the Department of Chemistry, University of Lancaster, by 15 January 1984.

Further details of this position and the University of Lancaster are available from the Department of Chemistry, University of Lancaster, or from the Registrar of the University, Lancaster. Closing date 15 January 1984.

The University of Manchester
Department of Engineering
LECTURER IN WEST EUROPEAN POLITICS

Applications are invited for a Lecturer in the Department of Engineering, University of Manchester. The successful candidate will be responsible for teaching and research in the field of West European politics. The position is full-time and requires a PhD in West European Politics or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Engineering, University of Manchester, by 15 January 1984.

University of Nottingham
School of Education
LECTURESHIP IN PRIMARY EDUCATION

Applications from men and women with appropriate qualifications and experience are invited for appointment to a Lectureship in Primary Education in the School of Education, University of Nottingham. The successful candidate will be responsible for teaching and research in the field of primary education. The position is full-time and requires a PhD in Primary Education or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the School of Education, University of Nottingham, by 15 January 1984.

University of Oxford
WAYNFLEET PROFESSORSHIP OF PURE MATHEMATICS

The electors intend to proceed to the election of a Waynfleet Professor of Pure Mathematics in the Department of Engineering, University of Oxford. The successful candidate will be responsible for teaching and research in the field of pure mathematics. The position is full-time and requires a PhD in Pure Mathematics or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Engineering, University of Oxford, by 15 January 1984.

Oxford Centre for Management Studies
The Oxford Centre for Management Studies

invites applications for a second ESMEE FAIRBAIRN FELLOWSHIP IN CORPORATE STRATEGY

The successful candidate will be responsible for teaching and research in the field of corporate strategy. The position is full-time and requires a PhD in Corporate Strategy or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Oxford Centre for Management Studies, by 15 January 1984.

Further details of this position and the Oxford Centre for Management Studies are available from the Oxford Centre for Management Studies, or from the Registrar of the University, Oxford. Closing date 15 January 1984.

The University of Manchester
Department of Engineering
LECTURER IN WEST EUROPEAN POLITICS

Applications are invited for a Lecturer in the Department of Engineering, University of Manchester. The successful candidate will be responsible for teaching and research in the field of West European politics. The position is full-time and requires a PhD in West European Politics or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Engineering, University of Manchester, by 15 January 1984.

Further details of this position and the University of Manchester are available from the Department of Engineering, University of Manchester, or from the Registrar of the University, Manchester. Closing date 15 January 1984.

The University of Manchester
Department of Engineering
LECTURER IN WEST EUROPEAN POLITICS

Applications are invited for a Lecturer in the Department of Engineering, University of Manchester. The successful candidate will be responsible for teaching and research in the field of West European politics. The position is full-time and requires a PhD in West European Politics or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Engineering, University of Manchester, by 15 January 1984.

Buckingham College of Higher Education
School of Art and Design
Furniture and TimberDirector of Studies,
Art and Design
Principal lecturer

to take charge of three dimensional design honours degree courses in Furniture Design, Interior Design, Ceramics with Glass, Silver Metalwork, the MA Course in Furniture Design and Technology and Foundation Art Course.

This is an important appointment and applicants should be well experienced in the three dimensional design area.

The post will become vacant on the 1st January, 1984 or as soon as possible afterwards.

Salary Scale: £12,519-£15,744 per annum.

For further information and application form apply to: Assistant Director (Resources), Buckinghamshire College of Higher Education, Queen Alexandra Road, High Wycombe, Bucks HP11 2JZ. Please enclose s.a.e.

DEPARTMENT OF ENGINEERING
LECTURER II IN ELECTRONICS

Required as soon as possible to teach Electrical and Electronic Engineering topics across the spectrum of College courses.

Degrees or equivalent qualification in electrical/electronic engineering required.

Must have recent and appropriate industrial experience in electronics industry.

Teaching experience desirable but not essential.

Salary scale: Lecturer II £7,215-£11,568 + Local Allowance £246 p.a.

For application form and further details, send S.A.E. to Vice-Principal, Slough College of Higher Education, Wellington Street, Slough SL1 1YG to whom completed forms should be returned within two weeks of the appearance of this advertisement.

Cambridgeshire College of Arts and Technology
ADVISER FOR STAFF DEVELOPMENT

Applications are invited for an Adviser for Staff Development in the Cambridgeshire College of Arts and Technology. The successful candidate will be responsible for assisting in the development of staff. The position is full-time and requires a PhD in Staff Development or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Cambridgeshire College of Arts and Technology, by 15 January 1984.

University of Oxford
Balliol College
TUTORIAL FELLOWSHIP IN MODERN HISTORY

The College proposes to appoint a Tutorial Fellow in Modern History in the Department of History, University of Oxford. The successful candidate will be responsible for teaching and research in the field of modern history. The position is full-time and requires a PhD in Modern History or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of History, University of Oxford, by 15 January 1984.

Further details of this position and the University of Oxford are available from the Department of History, University of Oxford, or from the Registrar of the University, Oxford. Closing date 15 January 1984.

Sunderland Polytechnic
Faculty of Pharmaceutical Sciences
LECTURER II IN PHARMACOLOGY

Applications are invited for a Lecturer in the Faculty of Pharmaceutical Sciences, Sunderland Polytechnic. The successful candidate will be responsible for teaching and research in the field of pharmacology. The position is full-time and requires a PhD in Pharmacology or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Faculty of Pharmaceutical Sciences, Sunderland Polytechnic, by 15 January 1984.

Polytechnics continued

HONG KONG BAPTIST COLLEGE

Founded in 1955, Hong Kong Baptist College is now a public-funded tertiary education offering 3-year full-time postgraduate courses in 16 departments grouped under 4 Faculties, viz. Arts (with Departments of Chinese Language & Literature, English Language & Literature, Music & Fine Arts), Business (Accounting, Business Management, Economics, Secretarial Management), Science (Biology, Chemistry, Mathematics, Physics), and Social Science (Communication, Geography, History, Social Work, Sociology).

The College's educational philosophy is that of whole-man education grounded in Christian heritage and accordingly every course is designed to be broad-based and to provide a sound understanding of the current development of the discipline, and oriented towards a number of career goals. It is intended that graduates from such courses will be well-balanced in academic achievement, professional competence and character development.

Applications are invited for the following senior posts tenable in March 1984 or as soon thereafter as possible (for Post 1) and in July 1984 (for Post 2, 3, & 4):

1. Academic Vice-President
To be responsible to the President for (a) maintaining and improving the academic standards of the College; (b) guiding the fulfilment of the College's goal of whole-man education; (c) formulating comprehensive academic development proposals and monitoring the implementation of approved academic plans (including the development of new courses) through direct supervision of the faculty deans; and (d) coordinating academic validation studies by external bodies.

2. Associate Vice-President (Academic Services)
To be responsible to the President for (a) giving guidance and supervision to the management and development of each of the following College-wide academic services: The Academic Affairs Unit, the Library, the Education Technology Unit, and the Computing Studies Unit; (b) ensuring that the academic services provided by the units under his direct supervision are adequate and effective for supporting the approved academic developments in the various faculties; (c) keeping under constant review the overall policy and procedures concerning academic services and to recommend improvements as and when appropriate; (d) assisting the President in guiding the fulfilment of the College's goal of whole-man education.

3. Associate Vice-President (Administration)
To be responsible to the President and (a) to be the principal officer assisting the President with the preparation of plans to procure resources from external sources to support the College's academic programme approved by the Academic Board and College Council; (b) to give guidance and supervision to the management and development of each of the following units: the Financial & Business Affairs Unit and the Computer Services Center; (c) to ensure that the services provided by the units under his direct supervision are adequate and effective for supporting the approved academic developments in the various faculties; (d) keeping under constant review the overall policy and procedures concerning administrative services and to recommend improvements as and when appropriate.

4. Faculty Deans
Four vacancies of full-time faculty deanship, corresponding to the Faculties of Arts, Business, Science and Social Science, will be filled to support the present college goals.

A faculty dean is responsible to the Academic Vice-President for (a) coordinating the operation of the departments within his faculty, including the implementation of their academic plans, the setting and monitoring of academic standards, and the enforcement of academic regulations; (b) providing leadership in the development of new courses and in the promotion of research, consultancy and other scholarly activities within the faculty; (c) providing leadership in the development of new courses and in the promotion of research, consultancy and other scholarly activities within the faculty; (d) providing leadership in the development of new courses and in the promotion of research, consultancy and other scholarly activities within the faculty.

Applications are invited for the following posts: (a) Academic Vice-President; (b) Associate Vice-President (Academic Services); (c) Associate Vice-President (Administration); (d) Faculty Deans. The successful candidate will be responsible for teaching and research in the field of academic services. The position is full-time and requires a PhD in Academic Services or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Hong Kong Baptist College, by 15 January 1984.

Bristol Polytechnic
Department of Computer Studies and Mathematics
LECTURER II/ SENIOR LECTURER IN INFORMATION SYSTEMS - Ref No L/152

Applications are invited for a Lecturer II or Senior Lecturer in the Department of Computer Studies and Mathematics, Bristol Polytechnic. The successful candidate will be responsible for teaching and research in the field of information systems. The position is full-time and requires a PhD in Information Systems or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Computer Studies and Mathematics, Bristol Polytechnic, by 15 January 1984.

Further details of this position and the Bristol Polytechnic are available from the Department of Computer Studies and Mathematics, Bristol Polytechnic, or from the Registrar of the Polytechnic, Bristol. Closing date 15 January 1984.

Applications are invited for a Lecturer II or Senior Lecturer in the Department of Computer Studies and Mathematics, Bristol Polytechnic. The successful candidate will be responsible for teaching and research in the field of information systems. The position is full-time and requires a PhD in Information Systems or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Computer Studies and Mathematics, Bristol Polytechnic, by 15 January 1984.

Further details of this position and the Bristol Polytechnic are available from the Department of Computer Studies and Mathematics, Bristol Polytechnic, or from the Registrar of the Polytechnic, Bristol. Closing date 15 January 1984.

Applications are invited for a Lecturer II or Senior Lecturer in the Department of Computer Studies and Mathematics, Bristol Polytechnic. The successful candidate will be responsible for teaching and research in the field of information systems. The position is full-time and requires a PhD in Information Systems or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Computer Studies and Mathematics, Bristol Polytechnic, by 15 January 1984.

HUDDERSFIELD POLYTECHNIC
DEPARTMENT OF COMPUTER STUDIES AND MATHEMATICS

HEAD OF DEPARTMENT Grade VI (Ref: ACA 4708)
The Department of Computer Studies and Mathematics is responsible for a BSc (Hons) Degree Course in Computing Business, a BSc (Hons) Degree Course in Computer Studies and for providing service teaching in computer studies and statistics for various courses in the Polytechnic. The successful candidate will be responsible for the management and development of the department. The position is full-time and requires a PhD in Computer Studies or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Computer Studies and Mathematics, Huddersfield Polytechnic, by 15 January 1984.

Further details of this position and the Huddersfield Polytechnic are available from the Department of Computer Studies and Mathematics, Huddersfield Polytechnic, or from the Registrar of the Polytechnic, Huddersfield. Closing date 15 January 1984.

DEPARTMENT OF ECONOMIC AND MARKETING STUDIES
LI/SL IN BUSINESS STUDIES (Ref: ACA 493)

Applications are invited for a Lecturer in the Department of Economic and Marketing Studies, Huddersfield Polytechnic. The successful candidate will be responsible for teaching and research in the field of business studies. The position is full-time and requires a PhD in Business Studies or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Economic and Marketing Studies, Huddersfield Polytechnic, by 15 January 1984.

Further details of this position and the Huddersfield Polytechnic are available from the Department of Economic and Marketing Studies, Huddersfield Polytechnic, or from the Registrar of the Polytechnic, Huddersfield. Closing date 15 January 1984.

DEPARTMENT OF COMPUTER STUDIES AND MATHEMATICS
LI/SL IN STATISTICS (Ref: ACA 494)

Applications are invited for a Lecturer in the Department of Computer Studies and Mathematics, Huddersfield Polytechnic. The successful candidate will be responsible for teaching and research in the field of statistics. The position is full-time and requires a PhD in Statistics or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Computer Studies and Mathematics, Huddersfield Polytechnic, by 15 January 1984.

Further details of this position and the Huddersfield Polytechnic are available from the Department of Computer Studies and Mathematics, Huddersfield Polytechnic, or from the Registrar of the Polytechnic, Huddersfield. Closing date 15 January 1984.

DUNDEE COLLEGE OF TECHNOLOGY
DEPARTMENT OF ELECTRICAL & ELECTRONIC ENGINEERING
SENIOR LECTURESHIP

Applications are invited for a Senior Lectureship in the Department of Electrical & Electronic Engineering, Dundee College of Technology. The successful candidate will be responsible for teaching and research in the field of electrical and electronic engineering. The position is full-time and requires a PhD in Electrical and Electronic Engineering or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Electrical & Electronic Engineering, Dundee College of Technology, by 15 January 1984.

Further details of this position and the Dundee College of Technology are available from the Department of Electrical & Electronic Engineering, Dundee College of Technology, or from the Registrar of the College, Dundee. Closing date 15 January 1984.

Thames Polytechnic
School of Mechanical Engineering
RESEARCH ASSISTANT

Applications are invited for a Research Assistant in the School of Mechanical Engineering, Thames Polytechnic. The successful candidate will be responsible for assisting in the research programme in the field of mechanical engineering. The position is full-time and requires a BSc in Mechanical Engineering or an equivalent qualification. The successful candidate will be expected to assist in the design and construction of experimental apparatus and to carry out experiments under the supervision of the Principal Investigator. Applications should be sent to the School of Mechanical Engineering, Thames Polytechnic, by 15 January 1984.

Further details of this position and the Thames Polytechnic are available from the School of Mechanical Engineering, Thames Polytechnic, or from the Registrar of the Polytechnic, Thames. Closing date 15 January 1984.

Preston Polytechnic
Faculty of Art and Design
PART-TIME LECTURER IN HISTORY OF DESIGN

Applications are invited for a Part-time Lecturer in the Faculty of Art and Design, Preston Polytechnic. The successful candidate will be responsible for teaching and research in the field of the history of design. The position is part-time and requires a PhD in the History of Design or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Faculty of Art and Design, Preston Polytechnic, by 15 January 1984.

BRIGHTON POLYTECHNIC
Writers/Engineers

An innovative project to make 80 training packages for updating technicians in industry is forming teams to prepare printed and AV materials and seeks freelance or full-time contract staff. The topics covered are the industrial application of:

Microprocessor Architecture and Operation; Computer-Aided Engineering: CAD/CAM, Robotics and FMS; Microprocessors in Data Communications and Telemetry; Pneumatics and Hydraulics; Plastics and new materials.

With expertise in one of the topics above, able to write in simple style to final copy. Knowledge of industrial applications and ability to visualise for a high proportion of diagrams, photographs and illustrations.

ENGINEERS & TECHNICAL SPECIALISTS
Graduates in topics above or industrial specialists to provide content, first drafts, or practical worksheets.

Terms of employment to suit individuals, from full-time contracts (in first instance to December 1985) to part-time and freelance. Attractive benefits for the right people.

Write immediately, with full CV and samples to: Clive Hewitt, Southtek Unit, 'A' Block, Brighton Polytechnic, Moulsecoomb, Brighton, BN2 4GJ, giving telephone number, present remuneration and two referees. (16358)

POLYTECHNIC OF THE SOUTH BANK
Borough Road, London SE1 0AA
NATIONAL BAKERY SCHOOL LECTURER, Grade II

The National Bakery School invites applications for the post of Lecturer Grade II to teach baking craft and technology. Applicants should possess a National Diploma in Baking or a Full Technological Certificate in Breadingmaking and Flour confectionery plus appropriate industrial experience.

Salary will be in the range: £8,202 (x 10) - £12,555 per annum inclusive of London Allowance. Starting salary will depend on qualifications and experience. Application form and further particulars are available from the Staffing Office, Tel: 01-928 8989, Ext. 2355. Closing date for receipt of completed application forms will be 23rd December, 1983. (16350)

Oxford Polytechnic
Department of Biology
LECTURER OR SENIOR LECTURER OR PRINCIPAL LECTURER IN EPIDEMIOLOGY

Applications are invited for a Lecturer, Senior Lecturer or Principal Lecturer in the Department of Biology, Oxford Polytechnic. The successful candidate will be responsible for teaching and research in the field of epidemiology. The position is full-time and requires a PhD in Epidemiology or an equivalent qualification. The successful candidate will be expected to supervise postgraduate students and to contribute to the development of the department. Applications should be sent to the Department of Biology, Oxford Polytechnic, by 15 January 1984.

Further details of this position and the Oxford Polytechnic are available from the Department of Biology, Oxford Polytechnic, or from the Registrar of the Polytechnic, Oxford. Closing date 15 January 1984.

Leicester Polytechnic
The Modelling School
RESEARCH ASSISTANT

Applications are invited for a Research Assistant in the Modelling School, Leicester Polytechnic. The successful candidate will be responsible for assisting in the research programme in the field of modelling. The position is full-time and requires a BSc in Modelling or an equivalent qualification. The successful candidate will be expected to assist in the design and construction of experimental apparatus and to carry out experiments under the supervision of the Principal Investigator. Applications should be sent to the Modelling School, Leicester Polytechnic, by 15 January 1984.

Further details of this position and the Leicester Polytechnic are available from the Modelling School, Leicester Polytechnic, or from the Registrar of the Polytechnic, Leicester. Closing date 15 January 1984.

Colleges of Further Education
**HAMPSHIRE EDUCATION COMMITTEE
FAREHAM (TERTIARY) COLLEGE
PRINCIPAL (Group 7 - £21,903)**

Applications are invited for the post of Principal of this new Tertiary College being formed from Price's Sixth Form College, Fareham and Fareham Technical College. Application forms and full particulars, which must be returned to Wednesday 14th December, 1983, may be obtained (free of charge) from the County Education Officer, The Castle, Winchester, Hampshire SO2 9UG quoting FE/STAFF/83. (16359)

